The performance implications of outsourcing

Raassens, N.

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

The Performance Implications of Outsourcing

The Performance Implications of Outsourcing

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit van Tilburg, op gezag van rector magnificus, prof. dr. Ph. Eijlander, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de aula van de Universiteit op vrijdag 25 maart 2011 om 14.15 uur door

Néomie Raassens

geboren op 14 december 1983 te Tiel.

Promotores: **Prof. dr. Inge Geyskens**
Dr. Stefan Wuyts

Committee

Prof. dr. ir. Gerrit H. van Bruggen, Professor of Marketing and ERIM Fellow, Department of Marketing Management, Rotterdam School of Management, Erasmus University Rotterdam, The Netherlands.

Prof. dr. Marnik G. Dekimpe, Research Professor of Marketing and CentER Fellow, Department of Marketing, Tilburg School of Economics and Management, Tilburg University, The Netherlands, and Professor of Marketing, Department of Marketing and Organisation Studies, Faculty of Business and Economics, Catholic University Leuven, Belgium.

Prof. dr. Ruud T. Frambach, Professor of Marketing, Department of Marketing, Faculty of Economics and Business Administration, VU University Amsterdam, The Netherlands.

Prof. dr. Inge Geyskens, Professor of Marketing, Department of Marketing, Tilburg School of Economics and Management, Tilburg University, The Netherlands.

Prof. dr. Aric Rindfleisch, Professor of Marketing, Department of Marketing, Wisconsin School of Business, University of Wisconsin-Madison, USA.

Dr. Stefan Wuyts, Associate Professor of Marketing, Department of Marketing, Tilburg School of Economics and Management, Tilburg University, The Netherlands, and Associate Professor of Marketing, Department of Marketing, Faculty of Business Administration, Koç University, Turkey.

Acknowledgements

When I started my studies in 2002, I planned to finish within four years. After finding out that accounting and finance were not my major fields of interest, marketing became my major focus. At the end of my bachelor (I was still on schedule), I decided to apply for the research master in marketing. Since then, my initial plans were worthless and replaced by new directions. I became interested in conducting research and I applied for a Ph.D. position. I consider my eight-year stay in Tilburg (yes, eight instead of the intended four) as a very valuable and fruitful period. The final result is this dissertation. Of course, I could not obtain this without the help from other people. Therefore, I want to take this opportunity to share my appreciation with all who contributed.

First, I would like to thank my supervisors, Inge Geyskens and Stefan Wuyts. Inge supports me always and anytime. Inge, even when I call you at home (after hours of feeling dubious of calling or not), you always take time to help me. Also for non-related matters, you are always there. I am very grateful for that (although I never stated this thankfulness in that many words). Stefan gives me unconditional support as well. Stefan, you have a very broad knowledge base, which certainly improved my way of thinking. Moreover, I will never forget the many funny moments we passed through. Inge and Stefan, your guidance was excellent!! Our discussions certainly improved my dissertation. You brought me up to the academic I am now. Thank you very much!! I am looking forward to our cooperation in the future!!

Additionally, I would like to thank Gerrit H. van Bruggen, Marnik G. Dekimpe, Ruud T. Frambach, and Aric Rindfleisch for their time and valuable comments. I am honored that you are willing to join the committee.

Moreover, my gratitude goes to the marketing department of Tilburg University. I enjoyed my three-year stay a lot. First, I would like to thank the secretaries, Heidi, Scarlett and Nancy for their assistance in administrative tasks and the Friday-afternoon talks. Additionally, I am grateful to the other Ph.D. students: Millie and Didi, my opposite neighbors, for the interesting and amusing conversations, Johanna for her shared interest in a marketing strategy topic and the related shared problems we faced and, more importantly, discussed, Anne for being a pleasant fellow traveler to conferences (EMAC and Marketing Science), Jaione for being involved and providing quotations of the day (which helps to put things into perspective), and Carlos and Femke for settling me down and giving me valuable advices. Last, but not least, I would like to

thank Mark, my Ph.D. brother and paranymph, for being my officemate. I really enjoyed our time together as Ph.D. students and I hope we will stay such good friends in the future. I also thank all the faculty members of the department. In particular, I would like to thank Els and Henk for being the leaders of the department, Bart, Barbara D., George, Rutger, Ernst, and Robert for answering my questions with regard to endogeneity and modeling, Anick for considering my three-way interaction plots, Marit, Anke, Ellen, and Petra for the sometimes non-academic chats, and Barbara B. for being such a nice person. Special thanks go to Hans. Hans, you showed me to have more self-confidence and gave me the courage to finish my dissertation. When I had a lot of stress (believe me that I, an ultimate “stress-kip”, had many of these moments), you stimulated me rather than letting me go off the rails. Additionally, even in times when I really reached the point where I preferred to quit my whole Ph.D. career, you found the right words to get me back on track. You should know that I am very grateful for your unconditional support.

Finally, I am in the lucky position to be surrounded by a lovely family. Mama en papa, jullie hebben mij altijd gesteund en gestimuleerd om overal het maximale uit te halen. Ik waardeer dit heel erg en zal jullie ook altijd steunen waar ik kan. Natasja, jij bent mijn steun en toeverlaat. Als mijn tweelingzus beleven we alle hoogte- en dieptepunten samen, iets waar ik heel erg blij mee ben. Jij bent mijn alles, dus ik ben verheugd dat jij mijn paranimf wil zijn. Ik bedank Monique, Patricia, Marko, Hennie, Alexander en David voor alle plezierige momenten die we beleven. Tot slot, bedank ik mijn neefjes en nichtjes, Brian, Damian, Jayden, Charrissa en Lindsey, die keer op keer bewijzen dat alles slechts relatief is.

CONTENTS

Chapter 1
Introduction

Outsourcing is a fast-growing phenomenon. Whereas in 2000, the global outsourcing market was estimated to be worth about $232 billion, this already amounted up to $443 billion in 2008 (Newton-Taylor 2010). Indeed, it is difficult to find an industry or a firm that does not take part in the outsourcing trend. Yet, the popularity of outsourcing does not imply that every firm benefits from outsourcing (Barthélemy 2003). On the contrary, as Dun and Bradstreet's Barometer of Global Outsourcing (2000) reports, outsourcing arrangements are characterized by unexpected high failure rates. Within the first two years of the arrangement, almost 25 percent of all arrangements fail, and within five years the failure rate increases up to 50 percent. Similarly, KPMG (2007) indicates that only 42 percent of 659 surveyed firms indicated that outsourcing had improved their performance. In the light of these findings, the major objective of this dissertation is to get more insight into *what distinguishes successful from unsuccessful outsourcing practices*.

This dissertation starts with an explanation of the concept of outsourcing and briefly describes the history of outsourcing in §1.1. Subsequently, §1.2 provides an overview of previous research on outsourcing. In §1.3 the major contributions are outlined. Finally, §1.4 concludes with a short overview of this dissertation.

§1.1 What Is Outsourcing?

Every firm regularly has to decide whether it should perform a business activity in-house or contract this activity to an external provider, which is also known as the make-or-buy decision. If

a firm chooses to contract the activity to an external provider, we say that the firm outsources this specific activity. Thus, outsourcing can be defined as an agreement in which the outsourcing firm delegates an activity to another company, viz. the outsourcing provider (Gilley and Rasheed 2000).

Outsourcing is not a new concept. Firms already started outsourcing in the 1970s, with a major wave of outsourcing starting in the early 1990s (Hätönen and Eriksson 2009). However, the nature of the functions being outsourced is changing radically. Traditionally, outsourcing was restricted to activities like distribution and manufacturing, and support activities, like payroll services, human resources, and information technology provision. Today, firms are increasingly outsourcing strategic functions that are relatively more crucial to their business (Gottfredson, Puryear, and Phillips 2005; Katz 2006), such as new product development and front-end processes like customer support.

Firms have different reasons to outsource, of which costs, benefits, and the associated risks are the most important considerations (Apte and Mason 1995). The top ten reasons of why firms are outsourcing are listed in Table 1.1. As Table 1.1 shows, the primary reason for outsourcing is to obtain cost savings (Abraham and Taylor 1996; Gilley and Rasheed 2000; Kakabadse and Kakabadse 2002). Unfortunately, many firms do not realize that outsourcing is not just a cost-cutting exercise and, as a result, outsourcing often does not live up to expectations (Deloitte Consulting 2005).

Table 1.1: Top Ten Reasons to Outsource

Rank	Reason
1.	Reduce and control operating costs
2.	Improve company focus
3.	Gain access to world-class capabilities
4.	Free internal resources for other purposes
5.	Resources are not available internally
6.	Accelerate reengineering benefits
7.	Function difficult to manage/out of control
8.	Make capital funds available
9.	Share risks
10.	Cash infusion

Source: The Outsourcing Institute, www.outsourcing.com

§1.2 Prior Research on Outsourcing

Since outsourcing is a growing phenomenon, it is attracting increasing attention of researchers worldwide. However, despite the growing emphasis on outsourcing, several notable gaps in the literature remain.

Gap # 1: Functions Being Outsourced

Prior research has extensively studied the outsourcing of routine processes, like information technology provision, distribution, and human resources (e.g., Gilley, Greer, and Rasheed 2004; Ngwenyama and Bryson 1999; Tiwana 2008). In contrast, the outsourcing of more strategic, less routine functions, such as customer-support activities and new product development, has received little attention in the literature. Important exceptions in the area of customer-support outsourcing include Akşin, de Véricourt, and Karaesmen (2008), Ren and Zhou (2008), and Bharadwaj and Roggeveen (2008). Akşin, de Véricourt, and Karaesmen (2008) compare call-center outsourcing contracts based on call volume and service capacity and show that the evaluation of different contract choices should not only be based on cost considerations, but also requires a good understanding of demand uncertainty. Ren and Zhou (2008) show which contracts (i.e. piecemeal, pay-per-call-resolved, pay-per-call-resolved plus cost sharing, and partnership contracts) the outsourcing firm can use such that the call center is induced to staff and exert effort according to the outsourcing firm's objective. Bharadwaj and Roggeveen (2008) study the impact of outsourcing call centers on customer evaluations and find that customers are more satisfied if (i) the call center is company-owned rather than outsourced and if (ii) the outsourcing provider is located in the same country as the outsourcing firm. A notable exception in the area of NPD outsourcing is Carson (2007), who investigates the relationship between the outsourcing firm's control and the outsourcing provider's performance for creative tasks. Carson (2007) finds that there are important differences between *ex ante* and *ex post* control in terms of their impact on the performance of creative tasks. In particular, Carson (2007) shows that highly creative tasks should be governed with more *ex ante* client control and less *ex post* control.

Gap # 2: Performance Implications of Outsourcing

As Jiang, Frazier, and Prater (2006, p. 1281) note, "in an age in which management carefully weighs the costs and benefits of every discretionary investment dollar, finding evidence of the

results of outsourcing is critical." Nevertheless, although academic studies have provided valuable insights into the drivers of the outsourcing decision, surprisingly little empirical research exists on the performance implications of this decision (Leiblein, Reuer, and Dalsace 2002). Moreover, the scant research that has studied the performance outcomes of outsourcing is inconclusive. Whereas some studies find a positive relationship between outsourcing and firm performance (e.g., Jiang, Belohlav, and Young 2007), other studies report a negative relationship (e.g., Weigelt 2009). Still others find no significant effect of outsourcing on performance (e.g., Gilley and Rasheed 2000). Empirical research that reconciles these inconsistent findings by uncovering the conditions under which the performance implications of outsourcing are negative versus positive is missing.

Gap # 3: Micro-Governance Decisions Within Outsourcing

A vast literature has focused on the question whether firms should outsource specific functions or should vertically integrate these functions (Rothaermel, Hitt, and Jobe 2006; Ulrich and Ellison 2005). The most influential frameworks used to obtain more insight into this question are transaction cost analysis (TCA) and the resource-based view (RBV) (McIvor 2009). The central argument of TCA, which is built on a behavioral foundation of bounded rationality and opportunism, is that firm boundaries are driven by the minimization of not only production costs, but also transaction costs (Walker and Weber 1984; Williamson 1985). If transaction costs exceed the production-cost advantage of the market, firms will favor internal organization. If transaction costs are absent or low, economic factors will favor outsourcing (Rindfleisch and Heide 1997).

The resource-based view regards the firm as a set of resources and capabilities that are treated as the strengths that must be supported (Grant 1991), and that can create a competitive advantage (Barney 1991). From the RBV, the core competences approach has evolved. According to this approach, firms should perform core activities in-house and outsource other, noncore activities (Prahalad and Hamel 1990; Quinn and Hilmer 1994). The RBV alerts to the hollowing of organizations when firms are outsourcing resources and capabilities that are path-dependent and evolve over time through learning-by-doing (Weigelt 2009).

Although these two research streams (TCA and RBV) have provided considerable insight into firms' *macro* governance decisions – i.e. the 'polar' choice between outsourcing and vertical

integration (Boerner and Macher 2002) – there is hardly any research on the firms' *micro*-governance decisions – i.e. the governance decisions *within* the outsourcing governance form (a notable exception is Poppo and Zenger 2002 in the context of information services outsourcing). As a result, the extant literature offers little guidance regarding how firms should structure their outsourcing arrangements, *given* that they are outsourcing.

§1.3 Contribution of the Dissertation

The purpose of this dissertation is to help fill the three identified gaps by answering the following questions.

Which Functions are Good Candidates for Outsourcing?

In contrast to prior research which has mainly concentrated on outsourcing peripheral functions, two of the chapters in this dissertation will focus on the outsourcing of relatively more strategic functions. In particular, in chapter 2, the outsourcing of customer support will be studied. Customer support is regarded as a core marketing strategy designed to encourage customer satisfaction, which is essential to the long-term success of a firm as satisfied customers drive loyalty and firm profitability (Rust, Zahorik, and Keiningham 1995; Zeithaml and Bitner 2003). In chapter 3, the outsourcing of new product development will be studied. New product development is core since it is a potential source of competitive advantage (Brown and Eisenhardt 1995), and is of vital importance to the growth, profitability, and survival of firms (Chaney, Devinney, and Winer 1991; Frambach, Prabhu, and Verhallen 2003; Sorescu, Chandy, and Prabhu 2003; Wind and Mahajan 1997).

What Are the Performance Implications of Outsourcing?

In contrast to studying the antecedents of outsourcing, this dissertation examines the performance implications of outsourcing. In chapters 2 and 3, the financial performance implications of outsourcing will be studied. More specifically, *shareholder value* is used as a performance metric, which is forward looking (Geyskens, Gielens, and Dekimpe 2002), less easily manipulated by managers than other financial measures (Srinivasan and Bharadwaj 2004), and guides the decisions of top managers (Lehmann, 2004). It reflects the investors' best estimate of the change in the long-term value of the firm (Gielens et al. 2008). This is especially important in

the context of outsourcing since the effects of outsourcing may take several years before fully translating into bottom-line performance.

In chapter 4, the effects of (manufacturing) outsourcing on *firm innovation* will be studied. A critical question in the context of manufacturing outsourcing is whether it makes outsourcing firms more or less innovative. Despite decades of research on outsourcing, this debate is yet to be resolved, an issue which is taken up in chapter 4.

How Should Firms Organize their Outsourcing Arrangements?

In contrast to previous research, which has largely focused on macro-governance decisions, this dissertation will concentrate on micro-governance decisions. The central question in chapters 2-4 is: *Given* that firms have decided to outsource, how should they organize their outsourcing arrangement to increase performance? To get more insight into this question, contingency frameworks will be developed that specify conditions under which outsourcing will have a more positive or a more negative effect on firm performance. In this way, we hope to demonstrate that the inconsistent findings regarding the effects of outsourcing on firm performance in the extant literature are a systematic and predictable set of contingent effects.

§1.4 Overview of the Dissertation

This dissertation consists of three essays. Although the essays differ in the underlying theories and emphasis, they share the common theme of outsourcing and its implications on firm performance. Table 1.2 provides an overview of the three essays.

Chapter 2 -- “When Does Outsourcing Customer Support Affect Firm Value?” -- concerns the impact of outsourcing customer support on the financial performance of the firm. Customer support is an important marketing function because it involves direct contact with end customers. Yet, a growing number of firms are outsourcing this function, driven by the expected cost savings that can be achieved (Juras 2008). In practice, however, many customer-support outsourcing arrangements fall short of expectations. As indicated by Gartner (2005), 80 percent of customer-support outsourcing projects that are aimed to cut costs fail. The purpose of this chapter is to examine why the financial performance consequences of outsourcing customer support may differ across firms. On the basis of three managerially relevant questions, i.e. what to outsource, where to outsource, and how to outsource, we argue that the performance implications of

outsourcing customer support are dependent upon the type of customer support that is being outsourced, the institutional context surrounding the outsourcing relationship, and the mechanisms used to govern the outsourcing agreement.

Table 1.2: General Overview of the Chapters

	Chapter 2	Chapter 3	Chapter 4
Research question	How is the performance impact of outsourcing customer support contingent upon the type of customer support that is being outsourced, the institutional context surrounding the outsourcing arrangement, and the design of the outsourcing arrangement?	How can firms "design" their NPD outsourcing deals to mitigate the undesirable mix of control and coordination concerns, and reap the benefits of NPD outsourcing?	Under which conditions does outsourcing manufacturing lead to more firm innovation and under which conditions to less firm innovation?
Function being outsourced	Customer support	New product development (NPD)	Manufacturing
Performance measure	Firm financial performance	Firm financial performance	Firm innovation
Sample	89 firms period 1993-2007	100 firms period 1994-2008	109 firms period 1985-2008
Data	Annual reports, Compustat, CRSP, Datastream, Factiva, Lexis Nexis, SDC Platinum, Worldbank	Annual reports, Compustat, CRSP, Datastream, Factiva, Lexis Nexis, OECD, SDC Platinum, Worldbank	Compustat, Product Launch Analytics
Methodology	Event study methodology	Event study methodology	Count model

Chapter 3 -- "The Market Valuation of Outsourcing New Product Development" -- is about the financial performance implications of outsourcing new product development (NPD). New product development is a strategic function that firms have started to outsource only recently. Despite the increasing popularity of NPD outsourcing, many NPD outsourcing arrangements are

not delivering the expected benefits. One of the major reasons for these disappointing results is the presence of hidden costs (Deloitte Consulting 2005), arising from control and coordination concerns. Control concerns pertain to the need for the outsourcing firm to protect itself against potential opportunistic behavior by the outsourcing provider (Gulati and Singh 1998; Williamson 2008), such as provider attempts to appropriate tacit knowledge or to shirk from responsibilities. Coordination concerns pertain to the need for the outsourcing firm to coordinate resource and information flows with the outsourcing provider (Gulati and Singh 1998). An important question therefore is how firms should "design" their NPD outsourcing arrangement to mitigate these concerns and achieve positive outsourcing performance outcomes. Because numerous studies have suggested that firms can use both formal and informal governance mechanisms as control and coordination devices (e.g., Gulati and Singh 1998; Kumar and Seth 1998), we examine whether and when the outsourcing firm should take a minority equity participation in the outsourcing provider (which is a formal governance mechanism), and whether and when it should opt for an outsourcing provider with whom it shares a history of prior ties (which is an informal governance mechanism). Specifically, we theorize and test the effectiveness of minority equity participation and prior tie selection under different levels of external and internal uncertainty, i.e. technological uncertainty and cultural distance, respectively.

Chapter 4 -- "Does Outsourcing Manufacturing Enhance or Erode Firm Innovativeness?" -- deals with outsourcing manufacturing and examines the consequences of outsourcing manufacturing on firm innovation. There is an ongoing debate in the literature about the effect of outsourcing manufacturing on innovation. Whereas some argue that outsourcing manufacturing inhibits innovation (e.g., Kotabe 1998; Kotabe, Mol, and Murray 2008), others suggest that outsourcing the manufacturing function stimulates innovation (e.g., Bengtsson, Haartman, and Dabhilkar 2009; Quinn 2000). We aim to provide more insight into the relationship between outsourcing manufacturing and innovation by developing a contingency framework. More specifically, we argue that the effect of outsourcing on innovation depends on demand volatility, R&D intensity, and marketing intensity.

Chapter 5, the final chapter, summarizes the findings and provides general conclusions. In addition, the implications of the different studies are discussed. Finally, this chapter suggests future research directions.

Chapter 2

When Does Outsourcing Customer Support Affect Firm Value?

§2.1 Introduction

Increasingly, firms are outsourcing customer support to other organizations. A recent report indicates that of the $300 billion worldwide customer-support market in 2006, $58 billion, or 19%, was realized by outsourcing (Baird Investment Banking 2007). Baird estimates that, by 2011, outsourced services will account for just over 26% of a $400 billion global customer-support market. Every day, there are new reports of firms jumping onto the customer-support outsourcing bandwagon. Recent examples include Barclays, a global financial services provider that outsources call-center jobs to India, and T-Mobile UK that outsources part of its customer care to the Philippines.

Customer-support outsourcing particularly increases during economic downturns, when it is embraced by companies across many industries as a popular cost-saving strategy (Juras 2008). Yet, although customer-support outsourcing is all the rage, many outsourcing arrangements fail to deliver the expected lower costs. Blinded by the quick-fix cost savings mainly in the area of salaries, many firms forget that there can also be "hidden costs" of outsourcing (Ren and Zhou 2008, p. 370), such as those associated with setting up the contract or monitoring the performance of the outsourcing provider. As a result, many customer-support outsourcing arrangements are unsuccessful. Indeed, it has been observed that:

> "50 percent of outsourcing in the near future will be successful, with the failures stemming from clients that don't know what they are doing, don't understand outsourcing, or don't understand their own business. Therefore, they don't know how to structure and manage the deals." (Deloitte Consulting 2005, p. 21)

This lack of understanding may be attributed to the fact that there has been little systematic academic research that investigates the impact of customer-support outsourcing on firm performance. Against this backdrop, the goal of this research is to understand what distinguishes successful from unsuccessful customer-support outsourcing practices.

We contribute to the literature in two ways. First, although prior research has extensively addressed the performance implications of outsourcing routine processes such as IT and human resources (e.g., Gilley, Greer, and Rasheed 2004; Ngwenyama and Bryson 1999; Tiwana 2008), outsourcing of customer-support activities is relatively underresearched. The limited number of studies that do cover the topic focus on call-center outsourcing, to the neglect of other types of customer-support outsourcing (e.g., Hasija, Pinker, and Shumsky 2008; Ren and Zhou 2008), and on the impact of outsourcing on customer evaluations (e.g., Bharadwaj and Roggeveen 2008). This study will add to this literature by (1) distinguishing between customer-support services along different dimensions, and (2) examining the financial performance consequences of outsourcing customer support.

Second, we develop hypotheses as to why the financial performance consequences of outsourcing customer support may differ across firms. We argue that the effects of outsourcing customer support are contingent upon the type of customer support that is being outsourced (what to outsource?), the institutional context surrounding the outsourcing relationship (where to outsource?), and the mechanisms used to govern the outsourcing agreement (how to outsource?). We hypothesize how these characteristics affect the performance implications of customer-support outsourcing through their effect on both production costs and various transaction costs. As to the latter, we consider safeguarding, adaptation, and performance-evaluation costs (Williamson 1991), as well as coordination costs (Gulati and Singh 1998). By exposing the hidden costs by which firms may fall prey to disappointment and identifying the factors that distinguish successful from unsuccessful customer-support outsourcing practices, we hope to assist senior executives in avoiding future costly mistakes.

We compose a database of customer-support outsourcing announcements spanning 17 countries and 21 industries. Our measure of performance impact is the stock-market reaction around the outsourcing announcement data, which has been recognized as an important metric to evaluate the effectiveness of marketing actions (Lehmann 2004). The results show, among others, that the type of customer support outsourced and the institutional context surrounding the

outsourcing relationship have important effects on firm performance. Further, the performance consequences of outsourcing customer support are more favorable when firms use multisourcing to govern their outsourcing relationships.

The remainder of this study is organized as follows. We first outline the conceptual framework in §2.2 and introduce our hypotheses in §2.3. Then, in §2.4, we describe the methodology and sample. Subsequently, in §2.5, we present our results. The final section, §2.6, discusses the study's implications for marketing research and practice and outlines promising avenues for future research.

§2.2 Conceptual Framework

We examine customer-support outsourcing from the transaction cost analysis (TCA) perspective. TCA recognizes that governance decisions involve a trade-off between transaction costs and production costs. The basic premise of TCA is that if transaction costs are high enough to exceed the production-cost advantage of the market, firms will favor internal organization. If transaction costs are absent or low, economic factors will favor market governance. In our context, production costs are the costs of delivering customer support. Transaction costs are the costs associated with the exchanges between the outsourcing firm and the outsourcing provider. Especially the transaction costs are often overlooked or underestimated at the time outsourcing contracts are signed (Williamson 2008). The most common forms of transaction costs are safeguarding costs, adaptation costs, and performance-evaluation costs (Geyskens, Steenkamp, and Kumar 2006; Rindfleisch and Heide 1997).

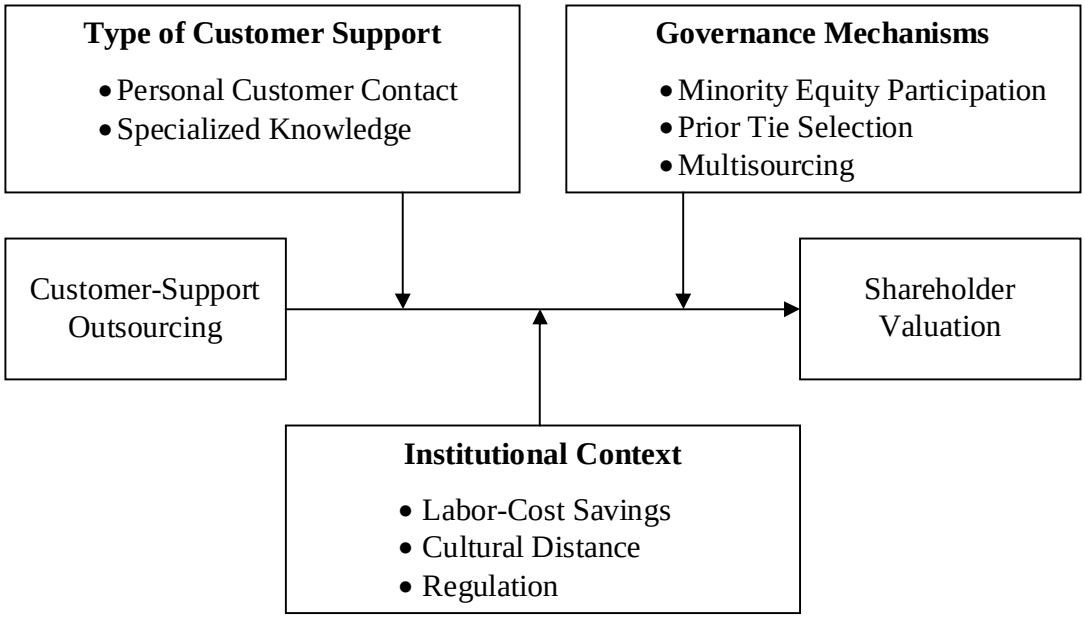
Safeguarding costs arise when the outsourcing firm deploys specific assets and, without devoting time, energy, and resources to developing appropriate safeguards, faces the risk of being opportunistically exploited by the outsourcing provider (Rindfleisch and Heide 1997). *Adaptation costs* occur when the relevant environmental contingencies surrounding an exchange are too unpredictable to be specified ex ante in a contract. When environmental uncertainty increases, it becomes progressively more difficult to write complete contracts, and costly renegotiations and frequent contract amendments may be required as circumstances change (Geyskens, Steenkamp, and Kumar 2006). *Performance-evaluation costs* arise when there are no or poor measures to ascertain the contractual performance of the outsourcing provider. To prevent the provider from reducing its efforts for the outsourcing firm, the firm needs to increase its selection and screening

efforts to identify the appropriate outsourcing provider ex ante, or incur costs in the form of monitoring and directing inputs rather than tallying up outputs and paying for performance (Rindfleisch and Heide 1997).

While the importance of safeguarding, adaptation, and performance-evaluation costs is well understood in TCA, the role of coordination costs has been less developed, yet may be equally important in our context. *Coordination costs* stem from the administrative challenges of task coordination as the outsourcing firm and the outsourcing provider strive to work together. They arise from the organizational complexity of decomposing tasks and specifying a precise division of labor among the outsourcing firm and the outsourcing provider, which requires ongoing communication, task coordination, and joint decision making (Gulati and Singh 1998; Park and Ungson 2001). Coordination costs are thus related to the ongoing need for mutual adaptation to maintain a fit between the partners (Hallén, Johanson, and Seyed-Mohamed 1991), rather than the need for adaptation to maintain a fit between the partners and the environment (which is captured by adaptation costs) (Gulati and Singh 1998). Coordination costs result from the interdependence between both parties in terms of coordinating tasks, which also sets them apart from safeguarding and performance-evaluation costs which are related to competitive issues between the exchange partners. Coordination costs can become extensive in outsourcing relationships, especially in the case of cross-border arrangements.

We use the five costs described above (production, safeguarding, adaptation, performance-evaluation, and coordination costs) as a framework for understanding how the performance impact of outsourcing customer support is contingent upon the nature of customer support that is being outsourced, the institutional context surrounding the outsourcing relationship, and the design of the outsourcing arrangement (see Figure 2.1). We argue which particular costs are influenced by each factor under investigation. We then "total up" these effects to make a "net" prediction on how each characteristic should influence the performance consequences of outsourcing customer support (for a similar approach, see e.g., Geyskens, Gielens, and Dekimpe 2002 and Fang, Palmatier, and Steenkamp 2008). Table 2.2 summarizes our approach.

Figure 2.1: Conceptual Framework



§2.3 Hypotheses

Three important questions managers should ask when outsourcing customer support are what to outsource, where to outsource, and how to outsource (Cohen 2006).[1] In order to address these questions, we investigate the impact of (1) the nature of the customer support that is being outsourced, (2) the institutional context surrounding the outsourcing relationship, and (3) the mechanisms used to govern the outsourcing arrangement, on the performance implications of customer-support outsourcing.

What to Outsource – The Nature of the Outsourced Customer-Support Service

Customer support can be classified along two dimensions: (1) the personal nature of the contact between the outsourcing provider and the outsourcing firm's customers, and (2) the specialized knowledge that the outsourcing provider needs to deliver the service according to specifications (Youngdahl and Ramaswamy 2008).

Personal customer contact. Customer contact pertains to employee-customer interaction during the delivery of customer support (Hartline and Ferrell 1996), and can be personal or

[1] Two other questions raised by Cohen (2006) – why and to whom to outsource – are not addressed in this study. The why question is related to the antecedents of outsourcing, while this chapter focuses on the performance consequences of outsourcing. Although it is an interesting question to which provider the outsourcing firm should outsource, data limitations do not allow us to account for partner characteristics (apart from those implied by country-related differences).

Table 2.2: Framework for Developing Hypotheses[a]

	Production costs	Safeguarding costs	Adaptation costs	Performance-evaluation costs	Coordination costs	Net effect on performance
Type of customer support						
Personal customer contact	+			+	+	-
Specialized knowledge	+	+				-
Institutional context						
Labor-cost savings	-					+
Cultural distance		+	+	+	+	-
Regulation		-				+
Governance mechanism						
Minority equity participation		-	-	-	-	+
Prior tie selection		-/+	+	-	-	+/-
Multisourcing	-	-	-	-	+	+

[a] A + (-) in the first five columns reflects a positive (negative) effect on, respectively, production, safeguarding, adaptation, performance-evaluation, and coordination costs. A + (-) in the last column reflects a positive (negative) net effect on performance. For example, the last row should be read as follows: when a firm uses multisourcing to govern its outsourcing relationship, production, safeguarding, adaptation, and performance-evaluation costs are reduced. In contrast, coordination costs are expected to increase. Totaling up these effects, we expect a positive net effect of multisourcing on the outsourcing firm's performance.

impersonal. Customer contact is personal when it takes place through a channel that accommodates direct, real-time interaction between the service employee and the customer. For example, call centers involve personal contact between service employees and customers. In contrast, e-mail support services do not involve direct, real-time interaction and are more impersonal.

Outsourcing personal customer-support services leads to higher costs than outsourcing impersonal customer-support services, for three reasons. First, services that involve personal customer contact are less amenable to disaggregation (and thus to outsourcing). Specifically, personal customer-support services have inherently smaller potential for efficiency due to the variability that customers introduce in the creation of these services (Apte and Mason 1995). Thus, outsourcing leads to larger production costs for customer-support services that involve personal as opposed to impersonal customer contact.

Second, the time when the customer interacts directly with the employee is an important evaluation moment for the customer (Bitner 1990). Employees who have direct personal contact with customers have a larger impact on how these customers evaluate the service and, in turn, the outsourcing firm (Hartline and Ferrell 1996). Thus, the potential for incompetent outsourcing providers to aggravate customers' frustration and hurt the outsourcing firm's image is higher when customer contact takes place through personal as opposed to impersonal channels. To prevent this, the outsourcing firm needs to monitor the outsourcing providers' customer-contact employees to ensure that their behaviors are conducive to the delivery of high-quality customer support (Hartline and Ferrell 1996). Increased monitoring, coupled with the fact that service quality is harder to monitor in case of personal customer contact (because each service encounter is unique and difficult to observe – Ren and Zhou 2008), leads to higher performance-evaluation costs.

Third, when firms outsource customer-support operations that involve personal interaction with their customers, they are less exposed to the voice of the customer, a valuable source of market information (Karmarkar 2004). To keep track of the information provided by customers, more intensive communication between the outsourcing firm and the provider is required, which leads to higher coordination costs for personal as opposed to impersonal customer support. We hypothesize:

H1 The performance consequences of outsourcing customer support are less favorable for firms outsourcing customer support that involves personal customer contact.

Specialized knowledge. Outsourced customer-support services may also differ in the extent to which service providers need a high level of specialized knowledge to deliver the customer support according to specifications (Youngdahl and Ramaswamy 2008). Customer-support services requiring low levels of specialized knowledge are characterized by simple repeatable routines that are easily codifiable, whereas customer-support services requiring high levels of specialized knowledge include, at least in part, tacit procedures that are more difficult to transfer.

To provide the outsourcing provider with the required knowledge, the outsourcing firm has to implement a training program. As the CEO of Appiant Technologies, a leading software development company, points out: "based upon diligent training efforts to understand our product and tech savvy workforce, we've engaged them [the outsourcing provider] to efficiently manage the needs of our growing customer base" (SafeHarbor 2001). This training program will be more intense when customer-support operations require more specialized knowledge, leading to increased production costs.

In addition, the investments in training and educating a specific outsourcing provider cannot be redeployed should the relationship with that outsourcing provider be terminated. As a result, the outsourcing firm becomes increasingly "locked" into the relationship, which increases the risk of opportunistic behavior by the outsourcing provider (Murray and Kotabe 1999), and as a consequence safeguarding costs are increased. In sum, we hypothesize:

H2 The performance consequences of outsourcing customer support are less favorable for firms outsourcing customer support that requires more specialized knowledge.

Where to Outsource – The Institutional Context Surrounding the Outsourcing Relationship

The institutional context surrounding the outsourcing relationship may have an important impact on its success. Following Burgess and Steenkamp (2006), we distinguish three distinct pillars of institutions that provide structure to society – the socioeconomic, cultural, and regulative systems. The socioeconomic system comprises macroeconomic and demographic characteristics (Burgess and Steenkamp 2006). The cultural system involves culturally supported beliefs, attitudes, habits, values, norms, and behaviors (Hofstede 2001). The regulative system involves the capacity to establish formal rules, inspect society members' conformity to them, and if necessary impose sanctions (Scott 2001). In this study, we include one component of each of

these institutional pillars, namely labor-cost savings (socioeconomic; Apte and Mason 1995), cultural distance (cultural; Hennart and Larimo 1998), and regulation (regulative; Roy and Oliver 2009).

Labor-cost savings. Often, labor-cost savings due to different salary levels between the countries of the outsourcing firm and the outsourcing provider lie at the basis of the outsourcing decision. For many activities, the cost of labor is the largest component (Tadelis 2007). As such, a substantial disparity of salary levels between different countries makes outsourcing to lower labor-cost countries an attractive alternative (Apte and Mason 1995). For example, in IT outsourcing dramatic cost reductions of fifty to sixty percent are observed (Jain 2006). For outsourcing non-routine activities such as customer support, cost savings can be substantial as well. A recent report suggests that in the airline industry, a carrier with $10 billion in annual revenues could save about ten percent a year by outsourcing customer care to lower labor-cost locations (Daga and Kaka 2006). Assuming all skills are of equal quality, labor-cost savings translate into lower production costs. We therefore hypothesize:

H3 The performance consequences of outsourcing customer support are more favorable when labor-cost savings are larger.

Cultural distance. Cultural distance involves the difference between the national cultural characteristics of the outsourcing firm's country of origin and the country where the outsourcing provider is located (Hennart and Larimo 1998). Intercultural differences can cause, sometimes unintended, conflicts and distrust in inter-firm interaction (Hofstede 1997). As distrust begets distrust (Bradach and Eccles 1989), exchange between firms that are more culturally distant involves a higher probability of opportunism, such as the outsourcing provider easing off a little (Geis 2007). At the same time, outsourcing to more culturally distant countries makes guarding against the outsourcing provider's opportunistic behavior more challenging and expensive (Hasija, Pinker, and Shumsky 2008). This entails higher safeguarding costs.

Moreover, cultural distance complicates the communication with and understanding of the outsourcing provider (Gong et al. 2001), thereby increasing both the costs of (re-)negotiating and the costs of coordinating activities with foreign outsourcing providers (Choi and Krause 2006). Further, the difficulties with communication and information transfer reduce the outsourcing firm's ability to inspect and evaluate the outsourcing provider's performance (e.g., financial records and operating procedures), which increases the costs of monitoring (Lee 1998).

Since cultural distance is expected to increase safeguarding costs (because of opportunism), as well as adaptation, performance-evaluation, and coordination costs (because of communication difficulties), we hypothesize:

H4 The performance consequences of outsourcing customer support are less favorable when cultural distance between the outsourcing firm and the outsourcing provider is larger.

Regulation. The regulative system consists of rules and regulations that define what is legally appropriate (Roy and Oliver 2009). Whereas some countries are marked by formal and transparent rules and restrictions, others are characterized by lax regulations and laws.

When firms outsource to countries with a strong regulative system, they may face lower transaction costs. Outsourcing providers are likely to act upon the normative influence of regulation (Edelman and Suchman 1997) to avoid penalties for noncompliance (Hoffman 1999). From a TCA perspective, regulation thus provides safeguards beyond those crafted in the context of private exchange (Williamson 1999). By outsourcing to providers from more regulated institutional environments, outsourcing firms can save on safeguarding costs, as part of these costs will be borne by the outsourcing provider's regulative environment. A similar argument is made by Zerbe and McCurdy (2000, p. 14): "Some markets may be inefficient because the government fails to enforce some agreements within that market. In such cases, government intervention […] may improve the market by reducing wasteful expenditures on self-protection." Consistent with this TCA view on regulation as a transaction-cost reducing mechanism, we hypothesize:

H5 The performance consequences of outsourcing customer support are more favorable when the country of the outsourcing provider is more regulated.

How to Outsource – Choosing an Appropriate Governance Mechanism

We expect that the performance consequences of outsourcing customer support are contingent on how outsourcing firms govern the outsourcing arrangement. Numerous studies have suggested that firms can use both formal and informal dyadic governance mechanisms to mitigate transaction-cost concerns (e.g., Poppo and Zenger 2002; Williamson 1991). A commonly used formal governance mechanism in the context of customer-support outsourcing is to hold an equity stake in the outsourcing provider (Gulati and Singh 1998; Pisano 1989).[2] A frequently

[2] It is important to note that the effect of equity participation is not a smooth linear effect (Kale and Puranam 2004). Thus, the decision on equity participation is primarily a categorical (minority equity stake vs. majority equity stake vs. equity joint venture) rather than a continuous one (Pan 1996). Following Carson (2007), outsourcing

used informal governance mechanism is to select an outsourcing provider with whom the outsourcing firm shares a prior relationship (Wuyts and Geyskens 2005). Much less academic attention has been devoted to network-based governance mechanisms based on self-regulation such as multisourcing, the practice of using multiple outsourcing providers simultaneously (Seshadri, Chatterjee, and Lilien 1991).

Minority equity participation. An outsourcing firm may take a minority equity stake in its outsourcing provider to create control. Control exists whenever one firm has authority or influence over decisions made by another firm (Carson 2007; Heide and John 1990). An equity stake typically creates control as the investing firm joins the board of directors of the outsourcing provider that received the investment (Gulati and Singh 1998; Pisano 1989). Through the board of directors, the outsourcing firm can monitor the outsourcing provider and better ensure that it does not behave opportunistically. Participation on the board also provides an arena for more easily adjusting activities as contingencies arise and for monitoring the outsourcing provider's performance contributions, e.g., because the outsourcing provider can be legally required to furnish certain verified information to its investor (Gulati and Singh 1998). As such, a minority equity stake may reduce safeguarding, adaptation, and performance-evaluation costs.

In addition, minority equity stakes may serve a role in reducing coordination costs. Board membership creates a forum in which both partners can exchange information, jointly coordinate activities, and ratify decisions on a regular basis, all of which reduce the outsourcing firm's coordination costs (Gulati and Singh 1998). In sum, the following is hypothesized:

H6 The performance consequences of outsourcing customer support are more favorable when the outsourcing firm holds a minority equity stake in its outsourcing provider.

Prior tie selection. Prior tie selection pertains to the selection of an outsourcing provider with whom the outsourcing firm shares a history of prior ties (Carson 2007; Heide and John 1990). Prior tie selection may affect outsourcing performance through its effects on safeguarding, adaptation, performance-evaluation, and coordination costs.

The effect of prior tie selection on safeguarding costs is ambivalent. On the one hand, when outsourcing firms select the same outsourcing provider over time, trust develops (Anderson and

arrangements in this study do not include equity joint ventures nor do we include arrangements where the outsourcing firm takes a majority equity position in the outsourcing provider. Since equity joint ventures involve the creation of new entities, they are more like hierarchies (Gulati and Singh 1998). Majority equity stakes convert an external partner into a legal subsidiary which reflects a step from hybrid to hierarchy (Ahmadjian and Lincoln 2001).

Weitz 1989; Gulati 1995a), which lowers the probability that the outsourcing provider will behave opportunistically (Child and Faulkner 1998; Dyer and Singh 1998). Thus, safeguarding costs will diminish. On the other hand, Grayson and Ambler (1999, p. 139) observe that "the sustainable competitive advantage enjoyed by long-term relationships carries the seeds of its own destruction." The increased commitment to a service provider makes a client firm more vulnerable and creates, paradoxically, opportunities for opportunistic behavior (Granovetter 1985; Moorman, Zaltman, and Deshpandé 1992). Such opportunistic behavior may be subtle in nature, such as putting less thought in new activities performed for the client firm (Moorman, Zaltman, and Deshpandé 1992). According to this dark-side view, safeguarding costs should not go down and may even increase.

In terms of adaptation costs, working with a familiar provider may stifle effective economic action if economic imperatives are superseded by social aspects, such as feelings of obligation and friendship (Uzzi 1997). Long-term relationships thus risk becoming more rigid, which can inhibit effective adaptation to environmental contingencies and may be associated with higher adaptation costs. In contrast, performance-evaluation costs are reduced. When the outsourcing firm and the provider share a longer history of prior ties, the outsourcing firm is more knowledgeable about the capabilities of the outsourcing provider (Gulati 1995b). The availability of this historical performance benchmark makes it easier and less costly to ascertain the outsourcing provider's present contractual performance.

Finally, coordination costs are reduced because, by partnering over time, the outsourcing firm and its provider (1) have learnt to better manage their relationship by aligning their interests (Heide and John 1990), (2) have learnt to share information which better informs their actions and decisions (Child and Faulkner 1998), and (3) have developed a set of routines that facilitates interfirm interaction (Zollo, Reuer, and Singh 2002).

In view of these contrasting arguments, we posit alternative hypotheses:

H7a The performance consequences of outsourcing customer support are more favorable when the outsourcing firm selects an outsourcing provider with whom it shares a prior tie.

H7b The performance consequences of outsourcing customer support are less favorable when the outsourcing firm selects an outsourcing provider with whom it shares a prior tie.

Multisourcing. Multisourcing involves using multiple outsourcing providers to provide a given service. A major reason why outsourcing firms use more than one outsourcing provider is

to encourage competition among the selected providers (Seshadri, Chatterjee, and Lilien 1991; Tullous and Utecht 1992). Competition promotes economic efficiency, which enables outsourcing firms to receive better prices and to lower their production costs (Berger and Zeng 2006). In addition, multisourcing makes it easier to substitute one outsourcing provider for another or to shift business between outsourcing providers (Lieberman 1991). Faced with a credible threat of losing business to the other outsourcing providers induces each outsourcing provider to provide high performance and to refrain from shirking (Wuyts 2007). Since the probability of opportunistic behavior by the outsourcing providers reduces, the costs for safeguarding against opportunistic behavior will also decrease.

Further, multisourcing helps the outsourcing firm better evaluate the outsourcing providers' performance. Each outsourcing provider benchmarks the other: as all outsourcing providers perform similar tasks, the outsourcing firm can directly compare their performance, which reduces performance-evaluation costs (Richardson 1993).

Also adaptation costs are likely to be lower in the case of multisourcing. Because multisourcing is associated with more competitive pressure, and more competitive pressure stimulates providers to more promptly and accurately respond to new requirements (Choi and Krause 2006; Cohen and Young 2006), contract renegotiations (when environmental circumstances change) will become less time-consuming and less costly. Thus, multisourcing will lower adaptation costs since any single outsourcing provider's power over the outsourcing firm is weakened when the outsourcing firm splits its total requirements among multiple sources (Burke, Carillo, and Vakharia 2007).

In contrast to the aforementioned cost savings, coordination costs are likely to be higher for multisourcing as opposed to single-sourcing. Instead of dealing with one outsourcing provider, the outsourcing firm needs to divide project responsibilities across two or more providers. This requires more ongoing communication and task coordination than in the case of single-sourcing (Choi and Krause 2006; Levina and Su 2008). When we total up these effects, our net prediction is a favorable effect of multisourcing on firm performance. This expectation of a positive net effect is consistent with a simulation study by Richardson and Roumasset (1995), who have shown that the inherently higher coordination costs from multisourcing can be more than offset by cost savings in other domains.

H8 The performance consequences of outsourcing customer support are more favorable for firms that use multisourcing.

Control Variables

First, we control for the outsourcing firm's size. We expect that the performance implications of outsourcing customer support are more favorable for large firms than for small firms, because larger firms have more bargaining power. More bargaining power provides outsourcing firms more leverage to negotiate and renegotiate terms (Bacharach and Lawler 1981). Second, we control for the type of industry – services vs. manufacturing – in which the outsourcing firm operates. Because services are associated with more uncertainty due to a larger diversity and unpredictability of customer requests (Bowen and Jones 1986), we expect that the performance consequences of outsourcing customer support are less favorable in service industries than in non-service industries. Third, we control for business-to-business (B2B) versus business-to-consumer (B2C) contexts. B2B exchange is more interdependent in nature than B2C exchange (Winer 2007). The higher need for customer alignment and mutual adjustment in B2B versus B2C exchange may result in less favorable performance consequences when outsourcing customer support.

§2.4 Methodology

We use an event study to examine the effect of outsourcing customer support on shareholder value. This performance metric is forward looking (Geyskens, Gielens, and Dekimpe 2002), is less easily manipulated by managers than other financial measures (Srinivasan and Bharadwaj 2004), and guides the decisions of top managers (Lehmann 2004).

The event-study approach relies on the assumption that financial markets are efficient. According to the semi-strong version of the efficient-market hypothesis, a firm's stock price accurately reflects all publicly available information about the firm. When an event occurs (in our case, when information concerning a firm's outsourcing of customer support is made public), investors update their expectations about the firm's future performance and react by buying or selling shares of that firm. As a result, the firm's stock price immediately changes to reflect the new information that arrives (Gielens et al. 2008). The percentage change in the stock price is the stock return.

We compare the observed stock return R_{it} on the event day (i.e. the day firm i's outsourcing

arrangement was announced) with $E(R_{it})$, the firm's return that would be expected if the event had not taken place. The difference between the observed return for firm *i* on the event day and its expected return is the abnormal return, AR_{it}, or the firm's unexpected change in stock price, which is attributed to the event. The abnormal return AR_{it} provides an unbiased estimate of the future earnings generated by the event.

To obtain estimates of a firm's expected returns, we use the market model. According to this model:

$$E(R_{it}) = \hat{\alpha}_i + \hat{\beta}_i R_{mt} \tag{1}$$

where R_{mt} is the market-index return in the home country of the outsourcing firm on trading day *t*. $\hat{\alpha}_i$ and $\hat{\beta}_i$ are firm-specific OLS estimates from regressing R_{it} on R_{mt} over an estimation period from 250 to 30 trading days prior to the event.

To account for information leakage before the event day (for t_1 time periods before the event) and for the possibility that some information is disseminated after the event day (for t_2 time periods after the event) (McWilliams and Siegel 1997), we aggregate the abnormal returns for a firm over the event window $[-t_1, t_2]$ into a cumulative abnormal return CAR_i to draw overall inferences for the event of interest (where $t = 0$ on the event day):

$$CAR_i[-t_1, t_2] = \sum_{t=-t_1}^{t_2} AR_{it} \tag{2}$$

Because we conduct the event study over *N* outsourcing events, this *CAR* can be averaged into a cumulative average abnormal return (*CAAR*):

$$CAAR[-t_1, t_2] = \sum_{i=1}^{N} CAR_i[-t_1, t_2] / N \tag{3}$$

To test the significance of the *CAAR*, we use the Patell (1976) statistic as described in Gielens et al. (2008). The length of the event window $[-t_1, t_2]$ is an empirical issue and is determined by selecting the most significant *CAAR* from several calculated *CAAR*s for different event windows (see, e.g., Geyskens, Gielens, and Dekimpe 2002 and Gielens et al. 2008 for similar practice).

To test our hypotheses on the performance consequences of outsourcing customer support, we regress the outsourcing firms' cumulative abnormal returns on the different covariates:

$$\begin{aligned} CAR_i[-t_1, t_2] = {} & a + b_1 CustCont_i + b_2 SpecKnow_i + b_3 LabCost_i + b_4 CulDis_i + \\ & b_5 Reg_i + b_6 EqPart_i + b_7 Tie_i + b_8 Multi_i + b_9 Size_i + \\ & b_{10} Serv_i + b_{11} B2B_i + \mu_i + \varepsilon_j \end{aligned} \tag{4}$$

where $CustCont_i$ is personal customer contact, $SpecKnow_i$ refers to specialized knowledge, $LabCost_i$ are the labor-cost savings, $CulDis_i$ is cultural distance, Reg_i denotes regulation, $EqPart_i$ is minority equity participation, Tie_i indicates prior tie selection, $Multi_i$ refers to multisourcing, $Size_i$ indicates firm size, $Serv_i$ refers to service industries, $B2B_i$ represents business-to-business outsourcing arrangements, and μ_i is the error term. Following Geyskens, Gielens, and Dekimpe (2002) and Gielens et al. (2008), the CAR_i are standardized by the standard deviations of the abnormal returns that were obtained for the estimation window, to reduce problems of heteroskedasticity that may arise when the estimated variances of the market model residuals vary across different firms. To correct for the clustering of events *i* in countries *j*, we use a random-intercept model to cope with potential differences in market sensitivity across countries (captured by ε_j).

Sample

Our dataset comprises customer-support outsourcing announcements during 1993-2007. We gathered these outsourcing announcements through extensive searches in the Lexis Nexis, Factiva, and SDC Platinum databases. This search resulted in an initial sample of 169 firms. Elimination of firms that were not publicly traded reduced the sample to 116 firms. We further removed eleven firms, for which stock price information was missing around the event day. To minimize the presence of confounding effects that might have extraneous influences on stock prices, we deleted 16 more firms for which the announcement included information about other important firm events (e.g., firm sales, earnings, CEO appointment) or if another announcement concerning the firm appeared within the three-day window around the announcement.

The final sample of 89 firms spans 17 different countries and 21 industries. The majority of outsourcing firms come from the United States (39%), the United Kingdom (19%), or the Netherlands (7%). Most outsourcing firms are active in the communications (Standard Industrial Classification (SIC) code 48), business services (SIC code 73), or industrial machinery and equipment (SIC code 35) industries. The outsourcing providers come from a wide variety of countries, namely Australia, Belgium, Brazil, Canada, Estonia, Germany, India, Indonesia, Ireland, Japan, Malaysia, Mexico, the Netherlands, Pakistan, the Philippines, Singapore, South Africa, Spain, Sweden, Taiwan, the U.K., and the U.S.

Operationalization

Financial measures. We obtained data on stock prices and market-wide indices from the

Center for Research on Security Prices (*CRSP*) and *Datastream* databases.

Nature of the outsourced customer-support service. We content-analyzed the outsourcing announcements, to identify whether the outsourcing arrangement involved *personal customer contact* (e.g., telephone support) or not (e.g., web-based support). In a similar vein, we identified whether the outsourcing provider required complex, *specialized knowledge* for delivering customer support (e.g., technical customer support) or whether the outsourced customer-support processes were characterized by simple, repeatable routines (e.g., reservations). Two coders independently coded each outsourcing agreement. Inter-coder agreement was above 95%. Differences between the coders were reconciled through in-depth discussion between the coders. We operationalize personal customer contact as a dummy variable that equals one when the outsourcing arrangement involves personal customer contact and zero otherwise. Similarly, we use a dummy variable that equals one for customer support requiring specialized knowledge, and zero otherwise.

Institutional context surrounding the outsourcing relationship. Labor-cost savings are measured by dividing labor costs in the country of the outsourcing firm by labor costs in the country of the outsourcing provider in the year before the announcement. Higher scores reflect that the outsourcing firm benefits from lower labor costs in the country of the outsourcing provider. Information on labor costs is obtained from the World Development Indicators compiled by the Worldbank. *Cultural distance* is operationalized as a composite index, using the cultural dimensions (i.e. power distance, uncertainty avoidance, individualism, and masculinity) developed by Hofstede (2001). Cultural distance is measured as the average of squared deviations of each of the four dimensions (variance-adjusted) between the country of the outsourcing firm and the country of the outsourcing provider (Kogut and Singh 1988). *Regulation* is taken from the Economic Freedom of the World Index (Gwartney et al. 2009). It is measured using five indicators that reflect the extent to which price setting, administration, starting a new business, licensing, and tax compliance in a country are regulated. Each indicator is measured on a scale from zero to ten, with higher scores corresponding to more regulation (after reverse-coding the original indicators). Together, these indicators measure the extent to which the business activities in a country are regulated in the year prior to the announcement.

Governance mechanisms. The three governance mechanisms are measured using dummy variables. The presence of a *minority equity stake* by the outsourcing firm in its outsourcing

provider equals one when a minority equity stake is taken, and zero otherwise. *Prior tie selection* reflects whether the outsourcing firm selected an outsourcing provider with whom it shared a tie prior to the outsourcing arrangement (1 = prior tie selected, 0 = no prior tie selected). *Multisourcing* equals one if multiple outsourcing providers are used simultaneously, and zero when a single outsourcing provider is used to deliver the customer support.

Control variables. Firm size is measured by total sales, one year prior to the outsourcing announcement, and log-transformed. We use a dummy variable to control for outsourcing firms belonging to a service industry (categorized by the NAICS list). We further control for systematic differences across B2B (1) versus B2C (0) outsourcing arrangements using a dummy variable. Finally, to control for unobserved heterogeneity between industries, we add dummy variables for each industry to equation (4). Since we do not a priori expect industry effects and to minimize the number of additional effects to be estimated, we first include all relevant industry dummies and then retain only the significant ones (cf. Anderson and Weitz 1989).

A summary description of all measures (including the diverse data sources used) can be found in Table 2.3. Table 2.4 reports the descriptive statistics and correlations between the covariates. Bivariate correlations exceeding .8 and variance inflation factors larger than 5 indicate potential multicollinearity problems (Judge et al. 1988). Since correlations and variance inflation factors are well below these critical values (highest correlation equals .48 in absolute value and the largest VIF-value is 1.60), multicollinearity is not a concern.

§2.5 Results

Effect of Outsourcing Customer Support on Shareholder Value

Of all windows surrounding the event day, the one from 0 to +2 shows the most significant *CAAR*: *CAAR*[0,+2] = .21% ($p < .05$). This implies that, on average, the customer-support outsourcing announcement leads to an increase of .21% in shareholder value, corresponding to a market value increase of $244.13 million in three days for an average-sized firm in our sample.

Factors Explaining Performance Differences Between Outsourcing Firms

Although the outsourcing of customer support is on average evaluated positively by the financial markets, the performance implications of outsourcing customer support differ substantively across outsourcing firms. Whereas 52% of the outsourcing firms show a positive *CAR*, 48% of the outsourcing firms were evaluated negatively by investors. To understand this cross-sectional

Table 2.3: Variables and Data Sources

Construct	Measure	Data Source
Firm performance	Changes in stock prices over a three-day event window using standardized cumulative abnormal returns	- Datastream - CRSP
Personal customer contact	Dummy variable: support service involves personal (1) versus impersonal (0) customer contact	- Lexis Nexis, Factiva, & SDC Platinum - Company websites
Specialized knowledge	Dummy variable: support service requires complex, specialized (1) versus simple, routine (0) knowledge	- Lexis Nexis, Factiva, & SDC Platinum - Company websites
Labor-cost savings	Ratio of labor costs in the country of the outsourcing firm and labor costs in the country of the outsourcing provider	- World Development Indicators (Worldbank)
Cultural distance	$CD_i = \sum_{d=1}^{4} \{(I_{di} - I_{dp})^2 / V_d\} / 4$ where I_{di} and I_{dp} are the scores for cultural dimension d, outsourcing firm i, and outsourcing provider p, respectively, and V_d is the variance of cultural dimension d	- Hofstede (2001)
Regulation	Average of five indicators reflecting the extent to which price setting, administration, starting a new business, licensing, and tax regulation in a country are regulated	- Economic Freedom of the World Index
Minority equity participation	Dummy variable: outsourcing firm holds (1) versus outsourcing firm does not hold (0) an equity stake in the outsourcing provider	- Lexis Nexis, Factiva, & SDC Platinum - Company websites
Prior tie selection	Dummy variable: outsourcing firm shares a prior tie (1) versus outsourcing firm does not share a prior tie (0) with the outsourcing provider	- Lexis Nexis, Factiva, & SDC Platinum - Company websites
Multisourcing	Dummy variable: outsourcing firm selects multiple (1) versus a single (0) outsourcing provider	- Lexis Nexis, Factiva, & SDC Platinum - Company websites
Firm size	Total sales (log-transformed) of the outsourcing firm	- Annual reports - Compustat
Services	Dummy variable: outsourcing firm operates in a services (1) versus manufacturing (0) industry	- NAICS list
B2B	Dummy variable: outsourcing takes place in a B2B (1) versus B2C (0) context	- Lexis Nexis, Factiva, & SDC Platinum

Table 2.4: Descriptive Statistics and Correlation Matrix

	Mean	s.d.	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
Standardized $CAR_i[0,+2]$ (X_1)	.19	1.77	1.00											
Personal customer contact (X_2)	.81	.40	-.08	1.00										
Specialized knowledge (X_3)	.36	.48	-.13	-.17	1.00									
Labor-cost savings (X_4)	7.14	11.54	.03	-.07	-.08	1.00								
Cultural distance (X_5)	.89	1.09	-.11	-.01	-.07	.48	1.00							
Regulation (X_6)	4.76	1.85	.12	.12	-.24	.43	.39	1.00						
Equity participation (X_7)	.07	.25	-.06	.02	-.01	.19	.12	.05	1.00					
Prior tie selection (X_8)	.20	.40	.13	.10	.09	.13	.09	.20	-.02	1.00				
Multisourcing (X_9)	.12	.33	.20	.18	-.14	.15	.15	.29	-.10	.24	1.00			
Firm size (X_{10})	7.97	2.53	.03	.32	-.12	.07	.19	.03	.05	.11	.10	1.00		
Services (X_{11})	.31	.47	-.05	-.04	-.05	.23	.29	.23	-.18	.20	.26	-.09	1.00	
B2B (X_{12})	.26	.44	.11	-.24	.20	-.04	.08	-.12	.05	-.11	-.22	-.22	.15	1.00

Table 2.5: Drivers of the Stock Market Reaction to Outsourcing Customer Support

	Hypothesized sign	b[a]	z-Value
Intercept		-.57	-.63
Type of customer support			
Personal customer contact	-	-.76*	-1.58
Specialized knowledge	-	-.66**	-1.68
Institutional context			
Labor-cost savings	+	.01	.59
Cultural distance	-	-.47***	-2.34
Regulation	+	.19*	1.62
Governance mechanisms			
Minority equity participation	+	-.67	-.92
Prior tie selection	+/-	.25	.55
Multisourcing	+	1.53***	2.61
Control variables[b]			
Firm size		.07	.97
Services		-1.33***	-2.83
B2B		1.38***	3.10

*$p < .10$; **$p < .05$; ***$p < .01$

[a] We use one-sided tests for hypothesized effects, two-sided tests for non-hypothesized effects.

[b] For simplicity of presentation, the results for the industry dummies are not reported in the table.

variation, equation (4) is estimated. Table 2.5 presents the results.

With regard to the type of customer support that is being outsourced, we find that outsourcing customer support that involves personal customer contact has more negative performance implications than outsourcing customer support that does not involve personal customer contact ($b_1 = -.76$, $p < .10$). This is consistent with H_1. H_2 proposes that outsourcing customer support entailing specialized knowledge is evaluated more negatively by investors than outsourcing customer support that is characterized by simple, repeatable routines. Also this hypothesis is supported ($b_2 = -.66$, $p < .05$).

H_3-H_5 pertain to the institutional context surrounding the outsourcing relationship. We find that the performance implications of outsourcing customer support are unrelated to labor-cost savings ($b_3 = .01$, $p > .10$). Therefore, H_3 is rejected. H_4 proposes that cultural distance has negative performance implications when outsourcing customer support. This hypothesis is supported ($b_4 = -.47$, $p < .01$). Consistent with our expectations, we find that the effect of regulation is positive and significant ($b_5 = .19$, $p < .10$), supporting H_5.

As to the governance mechanisms used to manage the outsourcing arrangement, holding a minority equity stake in the outsourcing provider does not significantly improve the performance

consequences of outsourcing customer support (b_6 = -.67, p > .10). Thus, H_6 is rejected. Also the effect of prior tie selection is insignificant, rejecting $H_{7a/b}$ (b_7 = .25, p > .10). Unlike the non-significant effects of the dyadic governance mechanisms, the effect of multisourcing is positive and significant, and in line with H_8 (b_8 = 1.53, p < .01).[3]

With regard to our control variables, we find no effect for firm size (b_9 = .07, p > .10). Outsourcing firms that are active in service industries are worse off by customer-support outsourcing than other firms (b_{10} = -1.33, p < .01). Finally, shareholders evaluate customer-support outsourcing in a B2B context more favorably than customer-support outsourcing in a B2C context (b_{11} = 1.38, p < .01), which contradicts our expectations. A possible explanation lies in the observation that, even though B2B exchange is more interdependent in nature than B2C exchange, B2B firms typically have fewer customers than B2C firms. This smaller customer base may be better manageable for a customer-support outsourcing provider.

Robustness Checks

To check the robustness of our findings, we performed two additional analyses. First, our measure of performance is the cumulative abnormal return over the 3-day event window [0,2]. We validated our results across an alternative window, viz. [0,1]. We chose this 2-day window because it is the most commonly used event window to study the effect of a particular announcement on stock prices (Hendricks and Singhal 1997). Moreover, it is at the same time short enough to benefit from increased power of the test statistic (McWilliams and Siegel 1997), and long enough to deal with the lack of synchronism in stock market trading hours between countries (5-6 hours difference between American and European countries and between European and most Asian countries; 12 hours difference between Asian and American countries; Park 2004). Overall, the results do not substantially differ from our earlier findings.

Second, to test the efficient market assumption, we checked whether the initial evaluation was not just a short-run over- or under-reaction that was corrected in the longer-run (Fama 1998). We calculated 3-months, 6-months, and 1-year long-term effects using the buy-and-hold

[3] Since forward-looking firms may choose the governance mechanism that results in the greatest expected return (Shaver 1998), we test for potential endogeneity in the three governance mechanisms included in our model. Relying on TCA, we compile a set of instrumental variables to assess potential endogeneity. We include advertising intensity and R&D intensity as proxies for asset specificity (cf. Lu and Hébert 2005). To capture uncertainty, we include demand uncertainty (measured by regressing industry sales against time and, subsequently, dividing the standard error of the slope coefficient of the time dummy by the average of industry sales; Boyd 1995). Finally, we include firm age as an instrumental variable. A Hansen's J test indicates that the equations are not overidentified (p > .10). A Durbin-Wu-Hausman test (Hoetker and Mellewigt 2009) failed to reject the null hypothesis that the governance mechanism variables are exogenous (p > .10).

abnormal returns (BHAR) and Ibbotson's returns across time and securities (IRATS) models. We find no effect on long-term abnormal returns (p's > .05), suggesting that the stock market is reasonably efficient. Thus, the abnormal returns to outsourcing customer support occur in the short-term window and there are no corrections in the long-run.[4]

§2.6 Discussion

Outsourcing customer support is a huge trend that organizations can no longer ignore (Alster 2005). Yet, many customer-support outsourcing projects are unsuccessful. We find that the financial markets evaluate 52% of the customer-support outsourcing announcements positively, whereas 48% is evaluated negatively. Drawing on transaction cost analysis, we identify a number of factors that distinguish successful from unsuccessful customer-support outsourcing practices. We demonstrate that the decision to outsource customer support should involve far more than labor-cost savings due to differences in salary levels between the countries of the outsourcing firm and the outsourcing provider. Hidden costs arising from the type of customer support that is being outsourced, the cultural and regulative institutional context surrounding the outsourcing relationship, and the mechanisms used to govern the outsourcing arrangement play a far more important role.

Several interesting insights and managerial implications emerge from our findings. First, the nature of the outsourced customer-support service should be taken into account. Outsourcing customer support that requires direct, real-time interaction between the customer and the service employee negatively affects the outsourcing firm's performance. Employees who have direct personal contact with customers heavily influence customers' perceptions about service quality, positively as well as negatively (Hartline and Ferrell 1996). To prevent the negative effects from materializing, the outsourcing provider needs to be monitored to ensure that its behaviors are conducive to the delivery of high-quality customer support. In addition, when firms outsource customer-support functions that involve direct customer contact, they lose sight of some of the most valuable market information, unless they extensively coordinate with the outsourcing

[4] Our dependent variable is the short-term cumulative abnormal return accruing from the outsourcing announcement to the outsourcing firm. Although this *measure materializes in the short term* (consistent with the efficient market hypothesis that a firm's stock price immediately reflects all new information), *conceptually* this measure reflects the stock markets' *best estimate of the change in the long-term value* of the firm. Significant long-term abnormal returns, as computed by the BHAR or IRATS methodology, reflect that the stock market is not efficient, but rather over- or under-reacted to the announcement. They do not connote long-term firm performance.

provider to feed the customer information back into the organization. This may further increase costs and reduce performance.

Outsourcing customer support that requires specialized knowledge also negatively affects performance. The intensive training needed to get the outsourcing provider started is costly. Moreover, the training investments made in the outsourcing provider cannot be redeployed in case the relation with the outsourcing provider is terminated. This creates an incentive for the outsourcing provider to behave opportunistically, which increases safeguarding costs. From a researcher's perspective, these results show that, to fully understand the performance implications of customer-support outsourcing, we should acknowledge differences between – rather than generalize across – customer-support services.

Interestingly, our findings question the appropriateness of narrowing down the outsourcing debate to a discussion on labor costs, a discourse that is common in the popular press. We find that labor-cost savings resulting from outsourcing do not influence the market valuation of outsourcing firms. However, the cultural and regulatory institutional contexts surrounding the outsourcing arrangement do. Thus, although labor-cost savings too often are managers' primary consideration in outsourcing decisions (Deloitte Consulting 2005; Juras 2008; Whitaker, Krishnan, and Fornell 2008), shareholders recognize the hidden costs that may arise from the cultural and regulative context of the outsourcing arrangement. The performance implications of customer-support outsourcing are less favorable when firms outsource to culturally distant countries or countries with a weak regulatory system. Our finding that cultural distance is an important driver of performance is in line with Flores and Aguilera (2007), who show that there is a continued need for learning across cultures (despite the fact that countries seemingly become more homogenous due to globalization).

We further find that dyadic mechanisms to govern an outsourcing agreement, in particular minority equity participation and prior tie selection, do not affect the performance consequences of outsourcing customer support. On the one hand, we expected a minority equity stake to reduce transaction costs. Our lack of empirical support may indicate that these transaction cost advantages are neutralized by the cost of equity participation itself. On the other hand, the opposite effects of prior tie selection on the various types of transaction costs (see Table 2.2) may have canceled each other out, resulting in an insignificant net effect of prior tie selection on performance.

In contrast, the performance consequences of customer-support outsourcing are much more favorable when firms use multisourcing to govern the outsourcing relationship, a finding that justifies the recent trend of selecting multiple outsourcing providers to provide a given service (Levina and Su 2008). Multisourcing reduces the outsourcing firm's dependence on a single outsourcing provider and introduces competition that stimulates best practice among outsourcing providers. Even though governance mechanisms where dependency on one actor is reduced by building ties to competing actors go back more than a century in the academic literature (see the discussion on the *tertius gaudens* principle in Simmel 1950 [1908]), such network control mechanisms have received only scant attention in the marketing literature. A recent finding that competing suppliers are willing to go beyond the call of duty and engage in behaviors not formally required (Wuyts 2007), underscores the self-regulating nature of this governance mechanism. Our findings regarding multisourcing, minority equity participation, and prior tie selection complement these insights and will hopefully stimulate more research into multisourcing and other network governance mechanisms as alternatives to dyadic governance mechanisms.

Limitations and Future Research Directions

This study has several limitations that offer interesting avenues for future research. A first limitation of this study is intrinsic to the secondary nature of the data. Despite the diverse data sources used for composing the database, transaction costs remain notoriously difficult to measure. Therefore, only qualitative statements could be made about the effects of outsourcing customer support on safeguarding, adaptation, performance-evaluation, or coordination costs. Future survey research could assess the performance effects of outsourcing customer support on each of these costs separately. Second, a question that remains unanswered in this study is whom the outsourcing firm should select as outsourcing provider. Although we investigate factors related to the outsourcing provider's country, characteristics of the outsourcing provider such as its reputation are left to future research.

Chapter 3
The Market Valuation of Outsourcing New Product Development

§3.1 Introduction

Firms have long outsourced some of the activities previously performed in-house to independent, outside firms. What began as the outsourcing of peripheral functions such as data entry or payroll processing, has evolved into the outsourcing of more strategic activities like new product development (NPD). Nokia, for example, outsources NPD activities to the Finnish firm TietoEnator. Novo Nordisk, a Danish pharmaceutical firm, recently announced it would outsource one third of its NPD activities to India. These examples are not isolated incidents but are reflective of a broader trend: a 2005 survey by AMR Research indicated that 41% of U.S. manufacturers were considering outsourcing NPD in the near future (Industry Week 2006).

Despite the increased popularity of NPD outsourcing, many NPD outsourcing arrangements are not delivering the expected benefits. While labor-cost savings are the primary rationale for most firms to engage in outsourcing (Industry Week 2006), the ultimate cost savings associated with outsourcing strategic activities may not be as substantial as they seem (Tadelis 2007). First, the *control costs* to safeguard against potential opportunistic behavior by the outsourcing provider are often overlooked or underestimated at the time outsourcing contracts are signed (Williamson 2008). Second, firms may lose touch with new technological breakthroughs and erode their potential for organizational learning when outsourcing strategic activities (Griffith, Harmancioglu, and Droge 2009). Actively coordinating the resource and information flows with the outsourcing provider may help guard against this loss of critical knowledge-based capabilities but, in turn, will also increase the *coordination costs* of these arrangements. A recent Deloitte

Consulting survey of the world's largest organizations reports that nearly half of the firms identified these "hidden costs" as a serious problem when managing outsourcing relationships (Deloitte Consulting 2005, p. 17).

Against this background, a critical question is how firms can 'design' their NPD outsourcing deals to alleviate control and coordination concerns, and reap the benefits of NPD outsourcing. Numerous studies suggest that firms can use both formal and informal governance mechanisms as control and coordination devices (e.g., Gulati and Singh 1998; Kumar and Seth 1998). An important formal governance mechanism is taking an equity stake in the outsourcing provider (Kale and Puranam 2004). An important informal governance mechanism is selecting a provider with whom the outsourcing firm shares a prior tie (Parkhe 1993).

We contribute to the literature in five ways. First, although the performance implications of outsourcing peripheral functions have been studied in some detail (e.g., Poppo and Zenger 2002; Tiwana 2008), there has been limited empirical research into the outsourcing of strategic activities such as NPD.[5] A key difference is that, while the outsourcing of both peripheral and strategic activities is characterized by control concerns, the outsourcing of strategic activities is set apart by coordination concerns resulting from the criticality of strategic activities to firm performance (Griffith, Harmancioglu, and Droge 2009).

Second, much research to date has generated important insights into firms' macro-governance decisions, i.e. the choice among basic governance forms such as outsourcing versus vertical integration (Boerner and Macher 2002). In contrast, relatively little is known about micro-governance decisions – such as governance decisions *within* the outsourcing governance form. We contribute to the latter stream of research by studying how a firm should govern its NPD outsourcing relationship, *given* that it has decided to outsource.

Third, despite an extensive body of research on the controlling and coordinating functions of formal and informal governance mechanisms, we understand little about when one mechanism is superior to the other. We theorize and test that the effectiveness of equity participation and prior tie selection in an NPD outsourcing arrangement depends on the external and internal uncertainties the outsourcing firm has to cope with. In particular, we argue that external and internal uncertainty create different types of control and coordination problems and that an equity

[5] A notable exception is Carson (2007), who shows that contractual specifications are one type of governance mechanism that may lead to higher task performance by the outsourcing provider (as perceived by the outsourcing firm).

stake and prior tie selection differ in their ability to resolve these problems.

Fourth, we offer a richer perspective on the debate on substitutability versus complementarity of formal and informal governance mechanisms (e.g., Dyer and Singh 1998; Poppo and Zenger 2002). Instead of advocating that formal and informal governance are substitutes or that they are complements, we propose that whether they serve as substitutes or complements is also contingent on the type of uncertainty faced.

Finally, we link NPD outsourcing to a financial metric of performance that is highly relevant to managers today: the stock market reaction around the outsourcing announcement date (Srinivasan and Hanssens 2009). This is a forward-looking measure that reflects investors' consensus forecast of the change in the long-term value of the firm attributable to the event (Gielens et al. 2008).

We structure the remainder of this study as follows: In §3.2, we first outline our theoretical framework, from which we derive a series of hypotheses on the effectiveness of the two governance mechanisms under two types of uncertainty (§3.3). Next, in §3.4, we describe the event study methodology we use to test these hypotheses empirically. We end with a discussion of our results in §3.5, and implications for marketing theory and practice in §3.6.

§3.2 Conceptual Framework

We take the perspective of the outsourcing firm – the firm that transfers an NPD activity to an external party. Extant research on outsourcing has identified the type of activity being outsourced as a key explanatory factor determining outsourcing success, the general view being that outsourcing strategic activities, such as NPD, is detrimental to performance (e.g., Gilley and Rasheed 2000). However, outsourcing NPD need not always be performance-diminishing as long as the related control and coordination concerns are handled well. *Control concerns* (sometimes also referred to as appropriation concerns) pertain to the need for the outsourcing firm to protect itself against potential opportunistic behavior by the outsourcing provider (Gulati and Singh 1998; Williamson 2008), such as provider attempts to appropriate tacit knowledge or to shirk from responsibilities. *Coordination concerns* pertain to the need for the outsourcing firm to coordinate resource and information flows with the outsourcing provider (Gulati and Singh 1998). Interfirm relationships are of the utmost importance for knowledge access and knowledge transfer, but such tasks that cross organizational boundaries create coordination costs (Lorenzoni

and Lipparini 1999). Coordination concerns are particularly important in an NPD environment, since flexible access to external resources opens up new directions for innovation (Rowley, Behrens, and Krackhardt 2000), while the transfer of knowledge from the outsourcing provider to the outsourcing firm may guard against a loss of critical knowledge-based capabilities due to outsourcing (Kalaignanam, Shankar, and Varadarajan 2007).

The Controlling and Coordinating Role of Formal and Informal Governance Mechanisms

Formal as well as informal governance mechanisms can address both control and coordination concerns. From the perspective of transaction cost analysis, formal and informal governance mechanisms function as controlling devices that safeguard against opportunism and misappropriation. From the perspective of the resource-based view, formal and informal governance mechanisms function as coordinating devices. The central mechanism in formal governance to address these concerns is authority (Ouchi and Bolton 1988; Powell 1990), which provides the outsourcing firm with oversight and influence (Puranam and Vanneste 2009). Informal governance mechanisms find their origin in social norms (Macneil 1978). These norms, which result from repeated exchanges embedded in social relationships, increase the partner's behavioral predictability (Puranam and Vanneste 2009) and create expectations of continuity that prompt cooperation in the present (Poppo and Zenger 2002).

In an outsourcing context, an important formal governance mechanism is to take a minority equity position in the outsourcing provider.[6] Minority equity participation may provide *firm-level control*, when the outsourcing firm gains a seat on the board of directors, or *project-level control*, through the creation of oversight committees that periodically meet to monitor the progress of the NPD activity being outsourced (Robinson and Stuart 2007). In addition, minority equity participation may facilitate *coordination* of knowledge flows from and to the outsourcing firm, for example through board-level interactions (Gulati and Singh 1998) or by "creating dedicated integration managers or permanent liaison committees" (Kale and Puranam 2004, p. 83).

An important informal governance mechanism is the selection of a provider with whom the

[6] It is important to note that the effect of equity participation is not a smooth linear effect (Kale and Puranam 2004). Thus, the decision on equity participation is primarily a categorical (minority equity stake vs. majority equity stake vs. equity joint venture) rather than a continuous one (Pan 1996). Following Carson (2007), NPD outsourcing arrangements in this study do not include equity joint ventures nor do we include arrangements where the outsourcing firm takes a majority equity position in the outsourcing provider. Since equity joint ventures involve the creation of new entities, they are more like hierarchies (Gulati and Singh 1998). Majority equity stakes convert an external partner into a legal subsidiary which reflects a step from hybrid to hierarchy (Ahmadjian and Lincoln 2001). This is also borne out by our data, where none of the outsourcing announcements that we retrieved mentioned joint ventures or majority equity stakes.

outsourcing firm shares a prior tie (Parkhe 1993). Prior tie selection may solve *control* concerns because the possibility of breaking off relations serves as a self-enforcing mechanism that reduces opportunistic tendencies. Moreover, the social norms and the experience-based knowledge that result from a prior tie reduce the unpredictable character of both partners' behavior, which in turn enhances social identification and reduces opportunistic behavior (Dyer and Singh 1998; Puranam and Vanneste 2009). In addition, as firms enter into successive collaborative agreements with each other, they develop knowledge-sharing routines, which may facilitate the *coordination* of knowledge flows (Gulati, Lavie, and Singh 2009).

Formal and Informal Governance Mechanisms: Unresolved Issues

Although decades of research on formal and informal governance mechanisms has established their controlling and coordinating roles, several unresolved issues remain. First, we know little about when one governance mechanism is more effective than the other. We argue that these governance mechanisms have different effects on performance depending on the level of uncertainty present. A distinctive characteristic of interfirm relationships is that partners have to deal not only with the external uncertainty in their environment but also with the internal uncertainty arising from each other's behavior (Krishnan, Martin, and Noorderhaven 2006). We build on this distinction between external and internal uncertainty in developing our hypotheses. Specifically, we argue that external and internal uncertainty pose different *types* of control and coordination problems and that formal versus informal governance mechanisms differ in their ability to resolve these problems.

Second, the different sources of formal and informal governance – authority versus social norms – have triggered a debate among academic scholars, with some arguing that they are complements and others arguing that they are substitutes. Poppo and Zenger (2002) argue that the unique origins of formal and informal governance mechanisms are indicative of their complementarity. According to this view, the combination of formal and informal governance mechanisms may deliver greater performance than either governance mechanism in isolation (Luo 2002). The continuity encouraged by informal governance may help safeguard against hazards poorly protected by the formal governance mechanism, while formal constraints can narrow the severity of risk to which an exchange is exposed and thereby promote the effectiveness of social norms (Poppo and Zenger 2002). However, their unique origins may also bear a risk. Formal governance mechanisms may undermine informal mechanisms by signaling

that the partner is not trusted to behave appropriately (Puranam and Vanneste 2009; Wuyts and Geyskens 2005). As a consequence, it becomes more difficult to manage the relationship on the basis of social norms (Ghoshal and Moran 1996; Jap and Ganesan 2000). An alternative perspective is therefore that formal governance serves as a substitute for informal governance (e.g., Dyer and Singh 1998; Lyons and Mehta 1997). Empirical evidence has been mixed.

These conflicting views and findings indicate a need for more research. We offer a richer perspective to the substitutes-complements debate that may help reconcile the divergent perspectives in the literature. Much of the discussion on substitutes versus complements ignores the possibility that, because of their fundamentally different origins, the effectiveness of formal and informal governance mechanisms – and when they are complements versus substitutes – may differ depending on contextual factors.

§3.3 Hypotheses

We examine how minority equity participation and prior tie selection have different effects on the outsourcing firm's performance depending on the type of uncertainty present. External uncertainty results from changes in the economic conditions faced by a firm that are outside its control and hard to predict. In the context of NPD outsourcing, an important form of external uncertainty is technological uncertainty (Griffith, Harmancioglu, and Droge 2009), the uncertainty arising from changes in technology due to new inventions or discoveries. Internal uncertainty pertains to the ambiguity in understanding and evaluating the actions of the outsourcing provider. In an international setting, "a particularly potent form of internal uncertainty is created by socio-cultural distance" (Anderson and Gatignon 1986, p. 17). We develop our predictions based on the argument that technological uncertainty and cultural distance present different control and coordination problems and that minority equity participation and prior tie selection differ in their ability to resolve these problems. Table 3.1 summarizes the different control and coordination problems created by technological uncertainty and cultural distance. We will use Table 3.1 as a basis for developing our hypotheses.

Table 3.1: Control and Coordination Concerns under Technological Uncertainty and Cultural Distance

	Technological Uncertainty	**Cultural Distance**
Control concerns	Opportunistic renegotiation due to incomplete contracts	Opportunistic miscommunication that is hard to detect because of information asymmetry
Coordination concerns	Obtaining access to new technologies while remaining flexible	Honest misunderstandings that make knowledge transfer difficult

Dealing With Technological Uncertainty When Outsourcing NPD

We define technological uncertainty as uncertainty arising from changes in technology due to new inventions or discoveries (Sutcliffe and Zaheer 1998). Such changes, which are outside the firm's control, increase the difficulty to accurately forecast future technical requirements. Technological uncertainty creates control as well as coordination problems. On the control side, contracts in technologically turbulent environments are inevitably incomplete (Fee, Hadlock, and Thomas 2006; Kale and Puranam 2004). The outsourcing provider may use the changing circumstances to force renegotiation and improve the terms of trade at the outsourcing firm's expense. On the coordination side, gaining access to the right technologies while remaining strategically flexible is difficult but critical to sustain a competitive advantage in a technologically uncertain environment (Kale and Puranam 2004).

Minority equity participation and technological uncertainty. The control problems due to incomplete contracts that are created by technological uncertainty can be addressed by minority equity participation (Fee, Hadlock, and Thomas 2006; Ouchi and Bolton 1988). By taking a minority equity stake, the outsourcing firm obtains some say over decisions concerning unexpected contingencies that have not been set in the contractual agreement (Pisano 1989), and the possibility of opportunistic renegotiation is correspondingly lower (Kale and Puranam 2004).

On the coordination side, technological uncertainty makes it difficult for the outsourcing firm to flexibly access new technologies. When a firm does not know which technology is needed for success because of technological uncertainty, it needs to remain flexible (Folta and Miller 2002). At the same time, when the technology in question is potentially critical to its business goals, the firm may want to prevent rivals from gaining access to it (Kale and Punaram 2004).

Minority equity participation can provide this balance. By taking a minority equity position in the outsourcing provider, "the sourcing firm [obtains] a certain degree of […] exclusivity over the technology" (Kale and Puranam 2004, p. 90). Even at low levels of equity participation, the outsourcing firm's direct rivals are unlikely to create outsourcing relationships with the same provider, as the outsourcing firm may use its minority equity position to further its own interests at their expense (Kale and Puranam 2004). It also gives the outsourcing firm enough flexibility to move quickly to a majority equity stake after the uncertainty is resolved (Folta and Miller 2002; Inkpen and Ramaswamy 2006). This "option" becomes more valuable as uncertainty about the technology increases (Kale and Puranam 2004). We therefore hypothesize:

H1 In technologically more uncertain environments, minority equity participation leads to more favorable performance consequences of outsourcing NPD.

Prior tie selection and technological uncertainty. From a control perspective, the literature is divided as to whether prior tie selection is able to solve the incomplete contracting problem associated with technological uncertainty. On the one hand, social norms have been found to foster continuity of the relationship and mutually agreeable outcomes in the face of renegotiations due to highly consequential disturbances, such as high levels of technological change (Poppo and Zenger 2002). On the other hand, the shared history between the outsourcing firm and its provider may reduce the provider's incentives to put much thought in the development project beyond previous ideas and insights (Baiman and Rajan 2002). This lack of motivation may cause the outsourcing provider to opportunistically evade necessary adaptations, by responding inappropriately or not at all to technological uncertainty (Krishnan, Martin, and Noorderhaven 2006; Wathne and Heide 2000; Wuyts and Geyskens 2005). In sum, the literature is inconclusive as to the effectiveness of prior tie selection in alleviating the control problems associated with technological uncertainty.

The coordination concerns evoked by technological uncertainty relate to obtaining access to valuable technological resources while remaining flexible. An important concern of working with a familiar as opposed to a new provider in a technologically uncertain environment is that a familiar provider is less likely to be *able* to come up with creative and novel NPD solutions (Moorman, Zaltman, and Deshpandé 1992). It has long been argued that for accessing creative and novel ideas, firms may want to look not only beyond the boundaries of their firm but also beyond their existing partners (Heide and Weiss 1995). In a recent study, Wuyts, Verhoef, and

Prins (2009) find that customer firms in information service markets prefer not to work with prior partners for services where creativity is key. They attribute this finding to cognitive biases associated with working with known partners (selective perception, confirmation bias): their panel discussion with 70 industry experts underscores that prior partners are less able to provide surprising, novel solutions. This reduced creativity of the outsourcing provider and the reduced novelty of its knowledge resources are a hindrance to deal with technological change.

Taken together, whereas there is debate as to whether prior tie selection alleviates the control concerns associated with technological uncertainty, prior partners are less able to provide access to creative, novel solutions in the face of technological uncertainty, which increases coordination concerns. We hypothesize:

H2 In technologically more uncertain environments, prior tie selection leads to less favorable performance consequences of outsourcing NPD.

Dealing With Cultural Distance When Outsourcing NPD

The difference between the cultural characteristics of the outsourcing firm's country of origin and the country where the outsourcing provider is located is known as cultural distance (Kogut and Singh 1988). Coping with cultural distance has been recognized as complicated and costly, yet very important to outsourcing success (Deloitte Consulting 2005). Cultural distance creates behavioral uncertainty – equivocality in understanding and evaluating the actions of the outsourcing provider. Specifically, in a culturally distant environment the companies may be "too far apart in their ways of doing things to understand each other and connect to each other effectively" (Doz 1996, p. 66). This may lead to two adverse consequences, as summarized in Table 3.1. First, on the control side, the fact that cultural distance creates information asymmetry may lead the outsourcing provider to opportunistically miscommunicate to the outsourcing firm, behavior that is not easily detected (Wathne and Heide 2000). Second, on the coordination side, cultural differences can also cause misunderstandings that are honest rather than deceitful, which may hamper knowledge transfer between both firms (Simonin 1999).

Minority equity participation and cultural distance. We argue that minority equity participation cannot solve the control and coordination problems that occur when cultural distance is high. On the control side, equity participation is ineffective when the source of the opportunism problem is related to information asymmetry. In such a case, opportunism is hard to observe (Wathne and Heide 2000), making it difficult to use authority as a mechanism to control

the counterparty's behavior.

As to the coordination side, cultural differences may lead to misunderstandings, which turn into key obstacles to interfirm knowledge transfer (Simonin 1999). According to Hamel (1991), knowledge transfer is a process that consists of two critical steps: (1) disclosure of knowledge by the outsourcing provider, and (2) assimilation of knowledge by the outsourcing firm. Although a minority equity stake induces the outsourcing provider to disclose information to the outsourcing firm (Chan et al. 2004; Pisano 1989), it does not improve the assimilation of this information by the outsourcing firm when cultural distance is high. For assimilation to take place, the misunderstandings that are caused by cultural differences and that hinder mutual understanding, must be resolved. Prior research has shown that the mutual understanding required for assimilating external knowledge should be achieved at the lower echelons of the firms (e.g., engineers or scientists), where daily interaction takes place (Inkpen and Dinur 1998). Interaction that is stimulated by equity participation, however, typically occurs at high strategic levels, such as directory boards and management committees (Gulati and Singh 1998; Kale and Puranam 2004). This is also reflected in Moorman's (1995) observation that hierarchical formal structures "are less likely to develop the person-to-person systems crucial to information processes" (p. 322). In sum, given the lingering control and coordination concerns in the face of cultural distance, a minority equity investment is likely to render low returns and hence is not justified. In line with these arguments, we hypothesize:

H3 When the outsourcing provider is culturally more distant, minority equity participation leads to less favorable performance consequences of outsourcing NPD.

Prior tie selection and cultural distance. Cultural distance creates control concerns due to information asymmetry, which enables the outsourcing provider to act opportunistically without easily being detected (Wathne and Heide 2000). Prior tie selection reduces the risk of deceitful communication in case of cultural distance. By sharing a prior tie, the outsourcing firm and its provider have tacitly developed an understanding of norms about appropriate behavior (Doz 1996; Dyer and Singh 1998), which reduces opportunistic tendencies. In contrast, when there is no history of prior ties between the outsourcing firm and its provider, each of the two firms may project onto the other a set of interpretations borrowed from its own cultural context, often incorrect, resulting in higher information asymmetry and more control problems (Doz 1996). Thus, prior tie selection decreases the likelihood of deceitful communication by the outsourcing

provider, which should help alleviate control concerns.

The coordination problem created by cultural distance pertains to 'honest' (undeceitful) misunderstandings that make knowledge transfer difficult. Differences in organizational routines between culturally distant companies complicate information sharing and learning. As partners learn through a prior tie how their differences may be overcome, or even constructively combined, knowledge sharing and learning become more efficient (Gulati, Lavie, and Singh 2009). Repeated interaction with the same firm establishes modes of communication (Zollo, Reuer, and Singh 2002) and creates a common language for discussion (Hoetker and Mellewigt 2009). We thus hypothesize:

H4 When the outsourcing provider is culturally more distant, prior tie selection leads to more favorable performance consequences of outsourcing NPD.

Taken together, H1-H4 propose that under technological uncertainty, minority equity participation is performance-enhancing (H1) while prior tie selection is performance-diminishing (H2). Under cultural distance, prior tie selection is performance-enhancing (H4), but minority equity participation is performance-diminishing (H3). The question we address next is if the performance-diminishing effects identified in H2 and H3 can be reduced by deploying the two governance mechanisms in combination.

The Simultaneous Use of Minority Equity Participation and Prior Tie Selection

H2 proposed that in technologically more uncertain environments, prior tie selection leads to less favorable performance consequences of outsourcing NPD. This proposition is based on two rationales, a control rationale (the outsourcing provider is *less motivated* to deliver creative solutions, which opposes the more traditional view that prior ties foster continuity when renegotiations are in order) and a coordination rationale (the outsourcing provider is *less able* to deliver creative solutions because of the lower novelty of its knowledge resources). Can minority equity participation solve the performance-diminishing effect of prior tie selection under technological uncertainty? If H2 is due to a control problem, supplementing prior tie selection with a minority equity stake should be an effective solution because equity participation facilitates the monitoring of progress (Robinson and Stuart 2007). The authority structure of equity participation may thus serve as an incentive for the outsourcing provider to take up its responsibility (Lyons and Mehta 1997). In contrast, if H2 is due to the coordination problem that the provider is less able to come up with creative solutions, a minority equity participation is

unlikely to be effective. In the latter case, minority equity participation represents an option on inferior resources, an investment that may further decrease performance. These contrasting rationales lead to two contrasting hypotheses: if the control rationale holds, equity participation should alleviate the problem of prior tie selection under technological uncertainty (H5a); if the coordination rationale holds, equity participation should worsen the problem (H5b). By testing the joint effect of minority equity participation and prior tie selection under technological uncertainty, we will be able to unravel whether H2 is largely due to control or to coordination concerns.

H5a The relationship between prior tie selection and outsourcing performance under technological uncertainty is less negative when the outsourcing firm takes a minority equity stake in its provider.

H5b The relationship between prior tie selection and outsourcing performance under technological uncertainty is more negative when the outsourcing firm takes a minority equity stake in its provider.

H3 proposed that when the outsourcing provider is culturally more distant, minority equity participation leads to less favorable performance consequences of outsourcing NPD. Again, this proposition is based on two rationales: a control rationale (concealed opportunistic miscommunication due to information asymmetry is difficult to address by authority-based mechanisms) and a coordination rationale (minority equity participation shifts communication to higher organizational echelons, but does not solve the lower-echelon cultural misunderstandings that hamper information transfer). Can prior tie selection solve the performance-diminishing effect of minority equity participation under cultural distance? Prior tie selection increases behavioral predictability and helps build social identification (Dyer and Singh 1998; Puranam and Vanneste 2009). These benefits of prior tie selection may reduce the information asymmetry that jeopardizes the effectiveness of minority equity participation. Since prior tie selection also creates a common language for discussion (Hoetker and Mellewigt 2009) and increases mutual understanding (Dyer and Singh 1998; Gulati and Singh 1998), it further complements a minority equity stake in addressing coordination concerns. We therefore hypothesize:

H6 The relationship between minority equity participation and outsourcing performance under cultural distance is less negative when the outsourcing firm selects a prior tie.

§3.4 Methodology

Our performance metric is shareholder value. We examine the effect of outsourcing NPD on shareholder value, using the event study methodology. A company's stock price reflects the discounted value of all future cash flows that are expected to accrue to the firm. According to the semi-strong version of the efficient market hypothesis, all publicly available information about a firm is reflected completely in its stock price. When new information becomes available, investors update their expectations and react immediately by buying or selling stock, thereby bidding the stock price up or down. Hence, if investors expect that NPD outsourcing will impact firm performance by increasing (decreasing) future cash flows, they react to the announcement by buying (selling) stocks, which positively (negatively) affects the firm's stock price.

Marketing scientists have increasingly recognized the importance of stock price reactions as a metric of firm performance. Stock price reactions are not only of interest because they guide the decisions of top managers, they also allow for an inference of cause and effect in a quasi-experimental setting (Srinivasan and Hanssens 2009). Specifically, the event-study approach allows us to isolate individual outsourcing events – for which different governance mechanisms and different outsourcing provider locations may have been chosen – and study their impact on stock prices, while the effects of other events that may have affected stock prices are randomized (since the NPD outsourcing events are announced on different dates). In contrast to accounting measures which evaluate "historical" performance indicators, the stock-market reaction is forward-looking; it reflects the stock market's best estimate of the change in the long-term value of the firm (Gielens et al. 2008). This is especially important in our context since the loss of critical knowledge and skills (that may result from not coordinating the NPD outsourcing arrangement properly) may take several years before fully translating into bottom-line performance.

The percentage change in the stock price of firm i between day t-1 and day t is the daily stock return R_{it}. R_{it} reflects investors' expectations of the performance impact of the information that became available between t-1 and t. The event study methodology compares the observed stock return R_{it} on the event day to $E(R_{it})$, the return that would be expected if the event had not taken place. To estimate $E(R_{it})$, we use the market model. According to this model:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} \quad (1)$$

where R_{mt} is the market index return in the home country of the outsourcing firm on day t. α_i and

$\hat{\beta}_i$ are firm-specific OLS estimates from regressing R_{it} on R_{mt} over an estimation period preceding the event. In our setting, the estimation period covers [*t*-250, *t*-30], i.e. 250 to 30 trading days prior to the event. The difference between R_{it} and $E(R_{it})$ is a measure of the abnormal return AR_{it} for firm *i* at day *t*:

$$AR_{it} = R_{it} - E(R_{it}) = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (2)$$

AR_{it} provides an unbiased estimate of the future earnings generated by the event.

Thus far, we considered the situation that there is no information leakage prior to the event day and that all information is completely disseminated during the event day. In practice, these assumptions may be violated (Gielens et al. 2008). To account for leakage (for t_1 time periods before the event) and dissemination over time (for t_2 time periods after the event), firm *i*'s abnormal returns over the event period [$-t_1$, t_2] are aggregated into a cumulative abnormal return CAR_i to draw overall inferences for the event of interest:

$$CAR_i[-t_1, t_2] = \sum_{t=-t_1}^{t_2} AR_{it} \quad (3)$$

Because the event study is conducted over *N* events, this *CAR* can be averaged into a cumulative average abnormal return (*CAAR*):

$$CAAR[-t_1, t_2] = \sum_{i=1}^{N} CAR_i[-t_1, t_2] / N \quad (4)$$

The extent of information leakage and dissemination, and thus the length of the event window [$-t_1$, t_2] is an empirical issue and is determined by selecting the most significant cumulative average abnormal return from several calculated *CAAR*s for different event windows (cf. Swaminathan and Moorman 2009). To test the significance of the *CAAR*, we use the Patell (1976) statistic as described in Gielens et al. (2008).

We test our hypotheses on the performance differences between outsourcing firms through a regression analysis on the (standardized) cumulative abnormal returns:[7]

[7] The standardized CAR_i are used as dependent variable to reduce heteroskedasticity problems that might arise when the estimated variances of the market model residuals vary across events (see Geyskens, Gielens, and Dekimpe 2002 or Gielens et al. 2008 for similar practice). The standardized CAR_i is the CAR_i divided by the standard deviation of the estimation-period abnormal returns.

$$
\begin{aligned}
CAR_i[-t_1,t_2] = {} & b_0 + b_1 EqPart_i + b_2 Tie_i + b_3 TechUnc_i + b_4 CulDis_i \\
& + b_5(EqPart_i \times TechUnc_i) + b_6(Tie_i \times TechUnc_i) + b_7(EqPart_i \times CulDis_i) \\
& + b_8(Tie_i \times CulDis_i) + b_9(EqPart_i \times Tie_i) + b_{10}(EqPart_i \times Tie_i \times TechUnc_i) \\
& + b_{11}(EqPart_i \times Tie_i \times CulDis_i) + b_{12} LabCost_i + b_{13} Size_i + b_{14} Profit_i + \mu_i
\end{aligned} \tag{5}
$$

where $EqPart_i$ is minority equity participation, Tie_i refers to prior tie selection, $TechUnc_i$ is technological uncertainty, and $CulDis_i$ refers to cultural distance. We also controlled for potential confounds. Specifically, we include $LabCost_i$, $Size_i$, and $Profit_i$ to control for labor-cost differences (the primary rationale for most firms to engage in outsourcing), the outsourcing firm's size, and the outsourcing firm's profitability (financial information that may influence stock returns; cf. Luo 2007).[8] We use mean-centering prior to forming the interactions to ease interpretation. To control for unobserved heterogeneity between countries, industries, and calendar years, we add dummy variables for each country, industry, and announcement year to equation (5), but in the interest of brevity we do not report them in the model or the tables. Since our number of observations is too low to include all dummy variables in our final analysis, we tested each dummy separately and retained only the significant ones.

Sample

We constructed a data set of NPD outsourcing announcements by searching the Lexis Nexis, SDC Platinum, and Factiva databases over a period of 15 years (1994-2008). This resulted in an initial sample of 159 announcements. We removed 36 announcements because the outsourcing firm was not listed on the stock market and 7 announcements because stock price information was missing around the event day. In 16 cases, the announcement included information about other firm events (e.g., firm sales, earnings) or another announcement concerning the firm appeared within the three-day window around the announcement. We removed these 16 announcements to minimize the presence of confounding effects.

This resulted in a sample of 100 announcements that unequivocally reflect NPD outsourcing. The outsourcing firms in our sample span 15 different countries and 17 industries. The majority of announcements were made by outsourcing firms coming from the United States (55%), followed by Japanese (7%) and Canadian (6%) firms. The outsourcing providers come from a wide variety of countries, including Australia, Belgium, Canada, China, Finland, France,

[8] We also did create a variable to capture the legal atmosphere of the outsourcing provider's country (i.e. rule-of-law), but because of the high correlation between rule-of-law and labor cost savings (r = .95), we could not include both variables in our final model.

Germany, Hungary, India, Italy, the Netherlands, South Africa, Taiwan, the U.K., and the U.S.

Measurement and Descriptives

Information on stock prices and market-wide indices is collected from the *CRSP* and *Datastream* databases. These data are used to calculate the daily returns of firm *i*, R_{it}, and the market returns, R_{mt}, respectively. A summary description of all measures for the independent and control variables, including the diverse data sources used, can be found in Table 3.2. Table 3.3 provides the descriptive statistics and correlations for our variables. While most of the correlations are rather low, bivariate measures of association do not reveal higher-order contingency effects such as those hypothesized in our study.

§3.5 Results

Effect of Outsourcing NPD on Shareholder Value

On the announcement day, outsourcing firms experience on average a .20% increase in stock returns. Of all windows surrounding the event day, the one from -1 to +1 shows the most significant *CAAR*: *CAAR*[–1,+1] = .45% ($p < .05$), corresponding to an increase in market value of almost $629.07 million in three days for an average-sized firm in our sample.

Factors Explaining Performance Differences Between Outsourcing Firms

There is considerable variation in the performance implications of NPD outsourcing across firms. While 54% of the outsourcing firms show a positive abnormal return over the event window (average *CAAR* = 3.20%), 46% are evaluated negatively by investors (average *CAAR* = -2.79%). To understand this cross-sectional variation, we estimated equation (5) with the individual firms' *CAR*[–1, +1] as dependent variable. Since firms may choose governance mechanisms in response to the uncertainty they are facing, we first tested for potential endogeneity of equity participation and prior tie selection.[9] A Durbin-Wu-Hausman test indicated that both governance mechanism variables are exogenous ($\chi^2(2) = 3.28$, $p = .19$). Interestingly,

[9] To ensure identification, we needed to include independent variables (instruments) in the equations for minority equity participation and prior tie selection. We find meaningful instrumentation by using the outsourcing firm's R&D intensity and intellectual property rights protection in the country of the outsourcing provider as identifying instruments for equity participation ($F(2,100) = 6.79$; $p < .05$). The first is indicative of exploration, a distinctive characteristic of firms that take options on external technologies through minority equity stakes; the second facilitates appropriating value from NPD investments, thus stimulating equity investments. We use firm age as an identifying instrument for prior tie selection, since older firms are more likely than younger firms to have accumulated a network of prior partners from which they can choose ($\chi^2(1) = 3.08$; $p < .10$). Since we have two instruments for equity participation, we conducted an overidentification test (Hansen's J test); the null hypothesis that the instruments are valid is not rejected ($p = .44$).

Table 3.2: Explanatory Variables and Data Sources

Construct	Measure	Data Source
Minority equity participation	Indicator variable: 0 = outsourcing firm has no equity participation in outsourcing provider, 1 = outsourcing firm has minority equity participation in outsourcing provider[a]	Lexis Nexis, Factiva, SDC Platinum
Prior tie selection	Indicator variable: 0 = outsourcing firm does not share a prior tie with outsourcing provider, 1 = outsourcing firm shares a prior tie with outsourcing provider	Lexis Nexis, Factiva, SDC Platinum
Technological uncertainty[b]	Industry R&D expenditures are regressed on year (based on 5 years prior to the announcement), and the standard error of the regression slope coefficient is divided by the mean of industry R&D expenditures (cf. Krishnan, Noorderhaven, and Martin 2006)	STAN Indicators (OECD)
Cultural distance	$CD_i = \sum_{d=1}^{4} \{(I_{di} - I_{dp})^2 / V_d\} / 4$, where I_{di} and I_{dp} are the scores for cultural dimension d, outsourcing firm i, and outsourcing provider p, respectively, and V_d is the variance of cultural dimension d (Kogut and Singh 1988).	Hofstede (2001)
Labor-cost savings	Labor costs in manufacturing in the country of the outsourcing firm divided by labor costs in manufacturing in the country of the outsourcing provider, in the year prior to the announcement. Higher scores reflect that the outsourcing firm takes advantage of the lower labor costs in the country of the provider.	World Development Indicators
Firm size	Composite measure of number of employees, firm assets, and firm sales of the outsourcing firm in the year prior to the announcement. After standardization, we averaged these three components into a single variable which we log-transformed. Since the logarithm of negative values is undefined, we added a small positive value to all the data points before taking the logarithm (Geyskens, Gielens, and Dekimpe 2002).	Compustat
Profitability	Net income divided by sales, in the year prior to the outsourcing announcement.	Compustat

[a] Only two announcements indicated the percentage of minority equity participation. The equity participation taken by the outsourcing firm in the outsourcing provider in these two cases equaled 9% and 18%, respectively. In all other cases, the announcement referred to a minority equity position, but did not disclose the percentage of equity participation. Our dummy variable measure is in line with Kale and Puranam's (2004, p. 79) argument that, in a cross-national study, "it is more realistic to think of an equity choice as a selection of the right equity bracket rather than as a smooth, continuous variable," since legal and accounting regulations across countries may lead to some discontinuities at specific levels of equity participation (see also Pan 1996).

[b] Since technological uncertainty arises from changes in technology due to new inventions and discoveries (Sutcliffe and Zaheer 1998) and since the latter are inherently difficult to predict, R&D investments in technologically uncertain environments are inherently less stable over time. We therefore measure technological uncertainty as "the magnitude of changes in research and development (R&D) activity" (Slater and Narver 1994, p. 51)

Table 3.3: Descriptive Statistics and Correlation Matrix

	Mean	s.d.	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
Standardized $CAR_i[-1,+1]$ (X_1)	.22	1.69	1.00							
Equity participation (X_2)	.13	.34	.08	1.00						
Prior tie selection (X_3)	.31	.46	.05	.13	1.00					
Technological uncertainty (X_4)	.03	.02	-.13	-.02	-.07	1.00				
Cultural distance (X_5)	1.03	1.12	.03	.01	.09	.10	1.00			
Labor-cost savings (X_6)	9.81	12.50	.11	.08	.16	.11	.75	1.00		
Firm size (X_7)	-1.65	1.87	.05	.15	.05	-.04	.31	.23	1.00	
Profitability (X_8)	-.12	.78	.09	.09	.14	.12	.21	.14	.39	1.00

neither technological uncertainty nor cultural distance significantly affected minority equity participation (*p*'s > .40) and prior tie selection (*p*'s > .50). Thus, OLS estimation is more appropriate than IV estimation, because it is unbiased and consistent, while IV estimation leads to a loss of efficiency.

Table 3.4 presents the results.[10] As hypothesized, minority equity participation leads to more favorable performance consequences of outsourcing NPD in technologically more uncertain environments (H_1: b_5 = 128.80, $p < .01$). In sharp contrast, prior tie selection negatively affects performance in case of higher technological uncertainty (H_2: b_6 = -29.18, $p < .05$). When the outsourcing provider is culturally more distant, minority equity participation leads to less favorable performance consequences of outsourcing NPD (H_3: b_7 = -1.13, $p < .05$), whereas prior tie selection becomes more effective (H_4: b_8 = .54, $p < .10$).

Table 3.4: Drivers of the Stock Market Reaction to Outsourcing NPD

	Hypothesized Sign	b[a]	t-Value
Intercept		-.19	-.66
Governance mechanism			
Minority equity participation (EqPart)		.98	1.67
Prior tie selection (Tie)		-.07	-.20
Uncertainty			
Technological uncertainty (TechUnc)		-5.33	-.72
Cultural distance (CulDis)		-.21	-.88
Interaction effects			
EqPart * TechUnc	+	128.80***	3.40
Tie * TechUnc	-	-29.18**	-2.01
EqPart * CulDis	-	-1.13**	-2.19
Tie * CulDis	+	.54*	1.63
EqPart * Tie		-.17	-.19
EqPart * Tie * TechUnc	+/-	-154.93***	-3.07
EqPart * Tie * CulDis	+	2.71***	2.59
Control variables[b]			
Labor cost savings		.02	.89
Firm size		-.11	-1.21
Profitability		.28	1.37

*$p < .10$; **$p < .05$; ***$p < .01$

[a] We use one-sided tests for hypothesized effects, two-sided tests for non-hypothesized effects.

[b] For simplicity of presentation, the results for the country, industry and year dummies are not reported in the table.

[10] All variance inflation factors are below 4 (largest VIF = 3.37), suggesting that multicollinearity is not a concern.

Can minority equity participation solve the performance-diminishing effect of prior tie selection under technological uncertainty? The negative three-way interaction effect (b_{10} = -154.93, $p < .01$) implies that the answer is no. This finding suggests that the performance-diminishing effect of prior tie selection under technological uncertainty is caused by a coordination problem rather than a control problem, thereby providing support for H_{5b} over H_{5a}. Can prior tie selection solve the performance-diminishing effect of minority equity participation under cultural distance? The positive three-way interaction effect (b_{11} = 2.71, $p < .01$) suggests that the answer is yes. This finding supports H_6.

To get an intuitive feel for the interaction effects, we plotted the partial derivatives of equation (5) using Schoonhoven's (1981) procedure (see Wathne and Heide 2004 for similar practice). Panel A1 of Figure 3.5 shows how the effect of minority equity participation on outsourcing performance increases as technological uncertainty increases. Panel A2 of Figure 3.5 shows how the positive effect of prior tie selection on outsourcing performance weakens and even becomes negative when technological uncertainty increases. Similarly, the simultaneous use of prior tie selection and minority equity participation (panel A3) is performance-diminishing across most of the range of technological uncertainty.

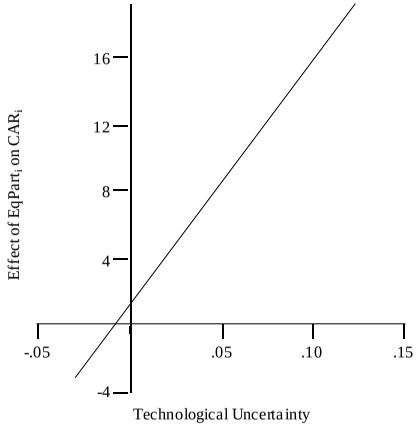
Panel B of Figure 3.5 portrays the effects for cultural distance. As is evident from Panel B1, at a low (high) level of cultural distance, minority equity participation is positively (negatively) related to the performance consequences of outsourcing NPD. The effect of prior tie selection turns positive in sign at low levels of cultural distance, and becomes stronger as cultural distance increases (panel B2). Finally, the simultaneous use of minority equity participation and prior tie selection is positively related to the performance consequences of outsourcing NPD when cultural distance increases from low to high (panel B3).

Robustness Checks

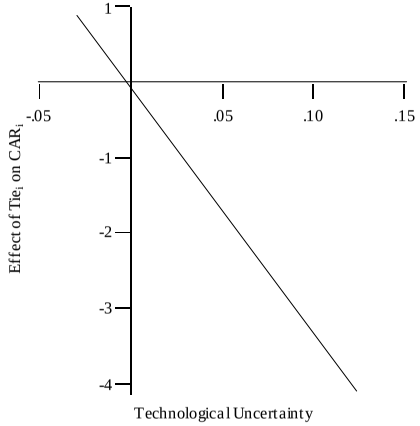
We checked whether the initial positive stock market evaluation was not just a short-run rise that was corrected in the longer-run (Fama 1998). We calculated 3 months, 6 months, and 1 year long-term effects using the buy-and-hold abnormal returns (BHAR) and Ibbotson's returns across time and securities (IRATS) models. We found no effect on long-term abnormal returns (p's > .10), suggesting that the stock market is reasonably efficient. Thus, the abnormal returns to NPD

Figure 3.5: The Effects of Minority Equity Participation and Prior Tie Selection on Firm Value

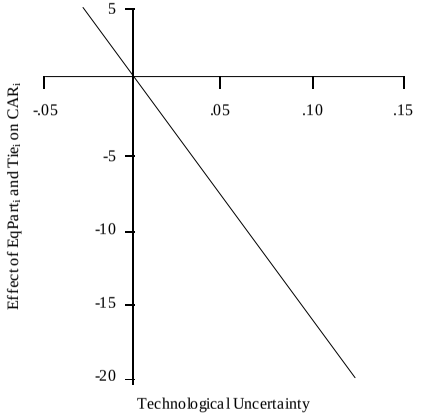
Panel A. Under Technological Uncertainty



A1: Minority Equity Participation

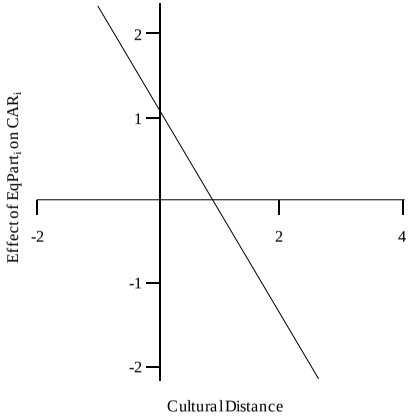


A2: Prior Tie Selection

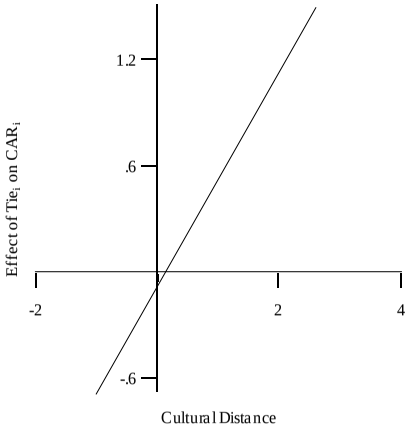


A3: Minority Equity Participation and Prior Tie Selection

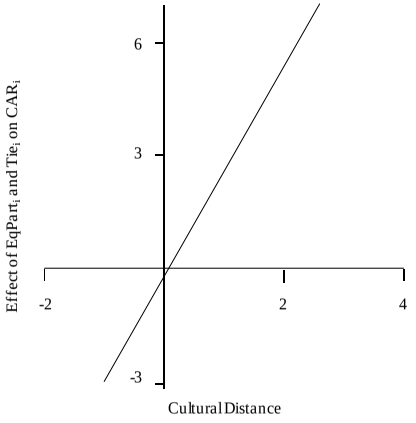
Panel B. Under Cultural Distance



B1: Minority Equity Participation



B2: Prior Tie Selection



B3: Minority Equity Participation and Prior Tie Selection

outsourcing accrue in the short-term window and there are no corrections in the long-run.[11]

Our dependent measure is the difference between the actual return and the estimated expected return based on the market-return model. To assess the robustness of our findings to the type of model used to estimate the expected returns, we re-estimated the abnormal returns using the world-market model, which adjusts abnormal returns not only for domestic market movements, but also for global market movements and changes in foreign currency exchange rates (Park 2004). In addition, we examined the effects of removing potential outliers ($\pm 5^{th}$, 10^{th}, and 15^{th} percentile of residuals). Our results are robust to these alternative specifications.

§3.6 Discussion

As companies have grown more comfortable with outsourcing, they are increasingly outsourcing strategic business functions that until recently had not been outsourced, such as NPD. Our finding that NPD outsourcing has, on average, positive performance implications explains this rush towards outsourcing. However, although the average return to NPD outsourcing may well be positive, it would be incorrect to conclude that all NPD outsourcing arrangements are smart business actions. The average return conceals much variation. In fact, the stock market evaluates 46% of the NPD outsourcing arrangements negatively.

Our results show that this variation in stock market evaluations can be explained by the governance mechanism(s) used – minority equity participation and/or prior tie selection – to deal with two types of uncertainty – technological uncertainty and behavioral uncertainty induced by cultural distance. We find that no single governance mechanism is always superior. Instead, minority equity participation and prior tie selection can be double-edged swords, with a performance-enhancing potential that increases under certain conditions but decreases under others. As visualized in Figure 3.5, minority equity participation is performance-enhancing under high technological uncertainty, but performance-diminishing under high cultural distance. Prior tie selection is performance-enhancing under high cultural distance, but performance-diminishing under high technological uncertainty. We explain these differential effects through the different

[11] Our dependent variable is the short-term cumulative abnormal return accruing from the NPD outsourcing announcement to the outsourcing firm. It should be noted that, although this *measure materializes in the short term* (consistent with the efficient market hypothesis that a firm's stock price immediately reflects all new information), *conceptually* this measure reflects the stock markets' *best estimate of the change in the long-term value* of the firm. Significant long-term abnormal returns, as computed by the BHAR or IRATS methodology, reflect that the stock market is not efficient, but rather over- or under-reacted to the announcement. They do not connote long-term firm performance.

control and coordination problems that are created by technological uncertainty and cultural distance.

Technological uncertainty can cause overt, opportunistic renegotiations as a result of incomplete contracts. An outsourcing firm can hedge against such observable opportunism by means of a formal, authority-based control mechanism such as equity participation. In addition, equity participation enables the firm to flexibly access external technologies and as such not only serves a control but also a coordination function. While the literature is inconclusive with regard to the effectiveness of prior tie selection to hedge against observable opportunism caused by incomplete contracts, it seems to converge in that prior tie selection reduces rather than increases access to valuable external technologies. In the extant marketing literature, several authors have pointed to problems associated with long-term relationships, such as decreased creativity and novelty (Moorman, Zaltman, and Deshpandé 1992; Wuyts, Verhoef, and Prins 2009). Using secondary data, we corroborate these survey-based findings and show that the stock market punishes a firm for outsourcing NPD to a provider with whom it shares a prior tie when technological uncertainty is high. Prior tie selection restricts the 'freshness' of the solutions offered by the outsourcing provider, which is worrisome when firms should be responding creatively to technological change. An open question was: is this performance-diminishing effect caused by the provider's lack of motivation or lack of ability to offer creative solutions? The significant and negative three-way interaction effect between prior tie selection, technological uncertainty, and equity participation provides the answer: the performance-diminishing effect of prior tie selection under high technological uncertainty is mainly caused by a prior outsourcing provider's *reduced ability* to be creative, rather than to a lack of motivation.

Cultural distance leads to information asymmetry – which may create control problems –, and to (honest) misunderstandings – which creates coordination problems. The control problem posed by cultural distance relates to the possibility that the outsourcing provider will deliberately provide wrong information given that such opportunistic miscommunication is hard to detect when cultural distance is high. Because of the unobservable nature of this type of opportunism (Wathne and Heide 2000), an informal governance mechanism that is based on norms of good conduct, such as prior tie selection, is a better hedge than an authority-based mechanism such as minority equity participation. The coordination problem posed by cultural distance relates to the difficulty of transferring knowledge between the parties. Prior tie selection helps create a

common language that may alleviate this coordination problem. Equity participation, however, stimulates communication at high strategic levels, whereas the mutual understanding required for assimilating external knowledge should be achieved at the lower echelons of the involved firms. Consistent with the arguments that the ineffectiveness of equity participation under high cultural distance is explained by the unobservable nature of opportunism and the lack of a common language, we find that prior tie selection is complementary to equity participation when dealing with high cultural distance.

Combined, these findings contribute to the discussion in the literature on the substitutability or complementarity of formal and informal governance mechanisms. The question implicitly asked by former studies is "Are formal and informal governance mechanisms either substitutes or complements?" when the correct question is: "Under which conditions are formal and informal governance substitutes versus complements?"

An interesting observation that stems from our endogeneity analyses is that the selection of governance mechanisms is not influenced by the degree of technological uncertainty and cultural distance. Hence, firms do not behave optimally. This observation contributes to the debate whether theories of governance choice are good predictors of managerial behavior. We attribute the gap between managerial practice and managerial prescriptions in our study to the recency of the NPD-outsourcing phenomenon. Since firms have little or no own prior experiences to rely on, they are still uncertain about the benefits and drawbacks of outsourcing NPD (Deloitte Consulting 2005). Our findings may serve as a warning as they question the proposition that descriptive research always has normative implications, an article of faith among neoclassical economists.

Implications for Practice

The rush towards outsourcing is often ascribed to labor-cost savings. But for the firms in our sample, labor-cost savings did not affect outsourcing performance.[12] Rather, control and coordination concerns – and the way these were handled – affected the performance consequences of NPD outsourcing. Our model can help managers cope with these concerns. In order to illustrate the consequences of alternative decisions, we calculate predicted *CAR*s for different governance decisions (equity participation vs. prior tie selection vs. both vs. neither)

[12] One possible explanation is that differences in labor-costs for the outsourced activities may not be as substantial as the differences in labor-costs averaged across industries (we only had access to the latter).

under low and high levels of technological uncertainty and low and high levels of cultural distance, where low and high levels are represented by one standard deviation below and above the mean (in the case of cultural distance, the low level corresponds to 'no cultural distance', i.e. when NPD is outsourced to a domestic partner). Figure 3.6 reports the predicted *CAR*s and can be used as a decision matrix for firms when outsourcing NPD.

Figure 3.6: Governance Mode Decision Matrix

	No Cultural Distance		High Cultural Distance	
Low Technological Uncertainty	Equity participation: Prior tie selection: Both: Neither:	-.77% .21% .02% .15%	Equity participation: Prior tie selection: Both: Neither:	-3.65% .94% 4.14% -.30%
High Technological Uncertainty	Equity participation: Prior tie selection: Both: Neither:	5.11% -1.43% -2.87% -.11%	Equity participation: Prior tie selection: Both: Neither:	2.23% -.71% 1.25% -.55%

When technological uncertainty is low, prior tie selection is the better governance mechanism when there is no cultural distance (*CAR* = .21%) or when cultural distance is high (*CAR* = .94%). In contrast, minority equity participation is performance-diminishing under these circumstances (*CAR* = -.77% when there is no cultural distance and *CAR* = -3.65% when cultural distance is high). Interestingly, the combined use of prior tie selection and minority equity participation is by far the most attractive strategy when NPD is outsourced to a culturally distant provider in technologically predictable environments (*CAR* = 4.14%). Put differently, when technological uncertainty is low, outsourcing to culturally distant countries under the protective wings of prior tie selection and minority equity participation is to be preferred over selecting a domestic outsourcing provider.

When the outsourcing firm faces a technologically turbulent environment, it can increase its *CAR* from -.11% to 5.11% by taking a minority equity participation in a domestic outsourcing provider. If this same firm would offshore to a culturally distant provider, its *CAR* would reduce

from 5.11% to 2.23%, a 56% drop. Thus, when technological uncertainty is high, selecting a domestic outsourcing provider is preferable to outsourcing to culturally distant providers. Prior tie selection, on the other hand, should be avoided at all times when technological uncertainty is high, since *CAR*s become as low as -.71% (when cultural distance is high) and -1.43% (when there is no cultural distance). The positive performance effect of taking an equity stake in a domestic partner even turns into a strong negative effect when a domestic partner is selected with whom the outsourcing firm has worked before (*CAR* = -2.87%).

Limitations and Future Research Directions

This study has several limitations, some of which provide interesting avenues for future research. First, we were unable to control for characteristics of the outsourcing providers, such as reputation or firm size, because the outsourcing providers were often located in countries where firm-specific information is poorly documented. Future research could consider survey research to address this issue. Second, although we searched for NPD outsourcing announcements in three different databases (covering over 100 newspapers, business, and trade magazines) to increase the likelihood of obtaining a more representative data set, we may have failed to uncover announcements from companies that do not report in the public records covered by these databases. In addition, our study dealt with stock market reactions to *announcement*s of NPD decisions, and not with the actual implementation of these decisions. Announcements are intended strategies that may be modified during implementation. It would be helpful for future research to study the effectiveness of strategy implementation. Third, since our study is based on secondary data, we were unable to test or control for other types of informal governance in the absence of prior ties. Even though other types of informal governance such as trust-based and routines-based governance often result from a history of prior ties (Gulati and Singh 1998; Zollo, Reuer, and Singh 2002), further research may explore the differential effectiveness of alternative informal governance mechanisms. Fourth, while the focus of this study was on outsourcing an activity that was previously performed within the boundaries of the outsourcing firm, a relatively new phenomenon is backsourcing: bringing an outsourced activity back in-house (Tadelis 2007). Backsourcing is costly: a company has to reorganize twice (first transitioning to outsourcing, then transitioning to insourcing), employee morale may be shaken, and customers may become dissatisfied. What are the factors that drive firms to backsource? Also, when is it better to reorganize outsourcing arrangements instead of to backsource? Finally, future studies could focus

on what drives the performance of the outsourcing provider. While some providers are flourishing, many are languishing. Further research could try to explain this variation, thereby complementing our findings on the performance consequences for the outsourcing firm.

Chapter 4

Does Outsourcing Manufacturing Enhance or Erode Firm Innovativeness?

§4.1 Introduction

Over the last 10 years, outsourcing has become the norm rather than the exception (Hätönen and Eriksson 2009). Especially manufacturing has already gone a long way down the road of outsourcing (The Economist 2004). Manufacturing outsourcing, which can be defined as "the reliance on external sources for manufacturing components" (Lei and Hitt 1995, p. 836), was first adopted in the 1960s en 70s and developed into a huge trend in later years. Whereas in 1990, less than 5 percent of all manufacturing was outsourced (Delattre, Hess, and Chieh 2003), 15 years later, in 2005, manufacturing has become an area that is 70 to 80 percent outsourced (Corbett 2005).

While there is considerable consensus in the literature that outsourcing the manufacturing function may help firms in cutting costs (Gilley and Rasheed 2000; The Outsourcing Institute 1998), there is an ongoing debate about the effect of outsourcing manufacturing on innovation. On the one hand, the outsourcing of manufacturing is sometimes referred to as "the new way of driving innovation" (Taplin 2008). Advocates of this point of view argue that outsourcing manufacturing *stimulates innovation* as it enables firms to move away from production efficiency as the primary objective and to learn from partners (Bengtsson, Haartman, and Dabhilkar 2009; Quinn 2000). On the other hand, others argue that manufacturing outsourcing *inhibits innovation*. According to this alternative point of view, manufacturing outsourcing leads to the loss of an important learning process, i.e. learning-by-doing (Kotabe 1998; Kotabe, Mol, and Murray 2008). The purpose of this paper is to empirically explore the question under which conditions

manufacturing outsourcing stimulates versus inhibits innovation.

We contribute to the literature in two ways. First, we are among the first to study the effect of outsourcing manufacturing on firm product innovation. Although innovation is vitally important for firms to survive competition (Hauser, Tellis, and Griffin 2006) and to spur growth (Sorescu and Spanjol 2008), there is surprisingly little research on this relationship. In contrast to prior research that has primarily focused on the cost-efficiency implications of manufacturing outsourcing (e.g., Jiang, Frazier, and Prater 2006), we will study the effect of outsourcing manufacturing on firm innovation.

Second, we aim to provide more insight into the relationship between outsourcing manufacturing and innovation by developing a contingency framework. We identify variables that moderate the effect of outsourcing manufacturing on innovation and thus specify conditions under which outsourcing manufacturing may either inhibit or stimulate innovation. In particular, we expect that the implications of outsourcing manufacturing on innovation vary depending on demand volatility within the firm's industry and the availability of alternative sources of learning that may foster firm innovation.

We test our conceptual framework on a time-series cross-sectional dataset containing 1,505 observations for 109 firms in the consumer packaged goods (CPG) industry. The sampled firms introduced 18,271 new products during the sample period (1985-2008). The results show, among others, that when the outsourcing firm operates in a market that requires fast and frequent learning (as is the case when demand volatility is high), outsourcing manufacturing will reduce firm innovation. In contrast, firms that are R&D intensive can benefit from outsourcing manufacturing.

The remainder of this paper is organized as follows. We first outline our conceptual framework in §4.2 and develop our hypotheses in §4.3. Next, we describe our methodology in §4.4 and present our results in §4.5. Finally, §4.6, we discuss the implications of our findings.

§4.2 Conceptual Framework

Firms must continuously develop and introduce new products to the marketplace to secure a position in today's highly competitive market environment (Rothaermel, Hitt, and Jobe 2006). A substantial body of research deals with the question of how the organizational form of firms affects their innovative capabilities (Belenzon and Berkovitz 2010). While there is broad

consensus about the positive effect of different organizational forms, such as joint ventures and internal corporate ventures, on innovation (Zajac, Golden, and Shortell 1991), there is an ongoing debate about the relationship between outsourcing and innovation (Bengtsson and Dabhilkar 2009). Whereas some argue that outsourcing manufacturing inhibits innovation, others contend that outsourcing manufacturing stimulates innovation.

Outsourcing Manufacturing: Inhibitor or Stimulus of Innovation?

On the one hand, some researchers have argued that there is a negative relationship between outsourcing manufacturing and innovation. The underlying reason is that outsourcing manufacturing creates a barrier for learning (Kotabe, Mol, and Murray 2008), and learning is key to the success of innovations. More specifically, when firms outsource manufacturing, the process of learning-by-doing will be lost. It is the outsourcing provider that performs the manufacturing activities and through manufacturing develops knowledge, which makes learning, and thus innovation, more difficult for the outsourcing firm (Kotabe, Mol, and Murray 2008).

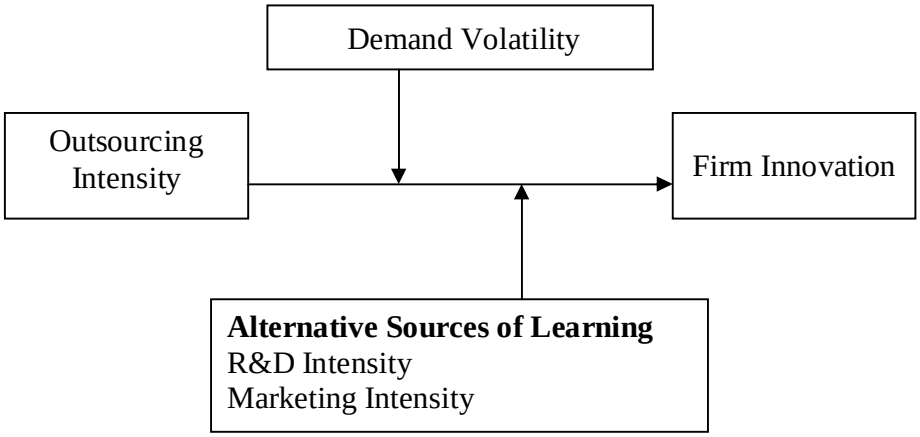
On the other hand, others have suggested that innovation can be separated from manufacturing (e.g., Sturgeon 1997). From this perspective, outsourcing manufacturing creates a change in the firm's culture, from a culture that puts production efficiency and cost minimization central (which is the primary objective of manufacturing; see Song, Montoya-Weiss, and Schmidt 1997) to a culture that supports innovation. In addition, outsourcing manufacturing may stimulate innovation, because it enables firms to learn from their partners (Bengtsson, Haartman, and Dabhilkar 2009).

Towards A Contingency Framework

Because prior research is equivocal about the consequences of manufacturing outsourcing, we develop a contingency model. We examine how outsourcing manufacturing is related to firm innovativeness and identify variables that moderate this relationship. More specifically, we argue that the effect of outsourcing manufacturing on innovation varies depending on (1) *demand volatility* in the firm's industry and (2) the firm's *alternative sources of learning*, as shown in Figure 4.1. First, when faced with frequent and unexpected changes in demand, firms need to make instantaneous changes to their products (Zhou 2006). From the lessons learned from executing these instantaneous changes, they can develop a strategy as they go along (Moorman and Miner 1998; Weick 1979). Second, although learning-by-doing is an important learning process of firms (Kotabe, Mol, and Murray 2008), another internal learning process available to

firms is learning-by-searching, which is related to firm activities aimed at determinedly generating new knowledge (Malerba 1992). Given our focus on innovation, we consider R&D and marketing as important activities the firm can use to generate new knowledge through learning-by-searching (Song, Montoya-Weiss, and Schmidt 1997).

Figure 4.1: Conceptual Framework



§4.3 Hypotheses

The Moderating Role of Demand Volatility

Demand volatility can be defined as the unpredictability of (future) demand (Gatignon and Robertson 1989). Demand volatility increases the difficulty of understanding customer markets (Baum and Wally 2003) and enhances the need for continuous learning (Hagedoorn and Duysters 2002). In highly volatile markets, customer needs and preferences are unstable and changing rapidly (Zhou, Yim, and Tse 2005). Since the success of the firm is highly dependent upon the ability to innovate in response to these rapidly changing customer needs and preferences, firms have to identify and meet these needs by modifying their products accordingly (Cui, Griffith, and Cavusgil 2005; Menon, Jaworski, and Kohli 1997). In an unpredictable environment, such adaptations need to be implemented nearly instantaneously rather than after the careful and meticulous development of a plan of action (Moorman and Miner 1998; Weick 1979). Through direct involvement in manufacturing, firms are continuously able to recognize new product possibilities that may be relevant to specific product markets (through learning-by-doing) and to exploit these possibilities through immediate adaptations in the manufacturing process (Cohen

and Levinthal 1990).

Alternatively, in a predictable environment marked by stable customer needs and preferences, the ability to learn-by-doing and to make instantaneous adaptations to the production of new products is less critical. Careful planning can precede the execution of plans, yielding time for interfirm coordination and the communication of required product adaptations in the manufacturing process. As a result, outsourcing is a more viable alternative in case of low demand volatility. We therefore hypothesize:

H1 The relationship between outsourcing manufacturing intensity and firm innovation is negatively influenced by demand volatility.

The Moderating Role of Alternative Sources of Learning

When outsourcing the manufacturing function, the firm loses the possibility to learn-by-doing. This loss can be compensated through learning-by-searching. What is more, the strategic emphasis that results from outsourcing manufacturing in combination with investing in R&D and/or marketing contributes to the development of an organizational culture oriented toward creation rather than optimization. As a consequence, firm innovation is fostered. In particular, R&D investments can be considered as an important input to create new information (Cohen and Levinthal 1989), and consequently help firms to develop know-how that is essential for innovation success (Mol 2005). In a similar vein, marketing expenditures are related to creativity, reflected in innovative output of the firm. Firms that invest in marketing create knowledge about current and future needs and preferences of consumers (Kor and Mahoney 2005) and are thus better able to identify new market opportunities, which may lead to successful innovations (Calantone, di Benedetto, and Divine 1993). In contrast, firms that maintain many of the manufacturing processes in-house tend to emphasize optimization more heavily than creation, since manufacturing is focused on optimal production planning and process-efficiency improvements. This line of reasoning is consistent with the assertion of Wierenga and van Bruggen (1997) that the value attached to certain activities (and the associated firm culture) influences the firm's approach to solving problems (in particular, optimizing versus creating problem-solving-modes, see Wierenga and van Bruggen 1997, p. 27).

In addition, outsourcing manufacturing can stimulate the learning functions of R&D and marketing. Through an emphasis on learning-by-searching, firms are able to build up their absorptive capacity. As Cohen and Levinthal (1989) argue, R&D investments enhance a firm's

ability to identify, assimilate, and exploit externally available knowledge. Moreover, although the concept of absorptive capacity typically relates to R&D intensity, Lane, Koka, and Pathak (2006) argue that it can be applied to other types of business-related knowledge as well, including marketing expertise. Firms that invest in marketing are not only likely to increase their knowledge about current and future needs and preferences of consumers, but also to enhance their ability to evaluate new ideas coming from outsourcing providers (Weigelt and Sarkar 2009).

In sum, because outsourcing manufacturing will shift a firm's focus from efficiency (the primary objective of manufacturing) to knowledge generation (the primary objective of R&D and marketing), and since R&D and marketing-intensive firms learn from their partners by means of absorptive capacity, the following is hypothesized:

H2 The relationship between outsourcing manufacturing intensity and firm innovation is positively influenced by R&D intensity.

H3 The relationship between outsourcing manufacturing intensity and firm innovation is positively influenced by marketing intensity.

§4.4 Methodology

Empirical Setting

The empirical setting of our study is the consumer packaged goods (CPG) industry. This setting is chosen for several reasons. First, the industry is economically important. It is a multi-trillion industry that contributes an estimated US$2.1 trillion of revenues to the overall U.S. economy (PricewaterhouseCoopers 2006) and is responsible for approximately US$3.4 trillion in business worldwide (Barbier et al. 2007). Second, CPG firms are outsourcing manufacturing at an increasing rate (George 2007). Finally, partly due to the economic recession, companies in this industry are faced with the challenge to develop new and innovative products to increase revenues (Barbier et al. 2007; PricewaterhouseCoopers 2010). This makes our research question – under which conditions does manufacturing outsourcing stimulate versus inhibit innovation – particularly important in the context of the CPG industry.

Sample

We assembled a time-series cross-sectional database by aligning data from two major sources, namely Compustat and Product Launch Analytics. While Compustat provides us with firm-level data as well as market information, Product Launch Analytics is our source of information for

new product introductions. It is the most comprehensive database of newly launched CPGs, reporting detailed descriptions of over half a million new products from worldwide markets introduced from 1980-present.

We first selected from Compustat all firms whose primary NAICS codes are covered by Product Launch Analytics. Using the Compustat company names, we subsequently searched for all new product introductions by these firms in Product Launch Analytics. This procedure resulted in a final sample of 109 firms for which at least ten years of data are available between 1985 and 2008. During this period, the sampled firms introduced 18,271 new products. The firms span 34 different industries within the CPG context.

Operationalization

Firm innovation. We construct annual measures of firm-level innovation, by summing the number of innovations each firm introduced each year during the 1985-2008 period.[13]

Outsourcing intensity. We measure outsourcing intensity by dividing worth of purchases (i.e. inputs outsourced to suppliers) by firm revenue (Strassmann 2004). Firms that purchase more inputs from external parties perform less manufacturing themselves, and therefore have a higher outsourcing intensity. Because firms may decide to outsource with the objective to become more innovative, we encounter a possible endogeneity problem. Consequently, we replace outsourcing intensity with an instrument. Following Dhar and Hoch (1997), we first regress the current values of outsourcing intensity on the one-year lags and then replace the original values with the predicted values. Through this procedure, we lose the first year of data for each firm.

Demand volatility. Following previous research (Fang, Palmatier, and Steenkamp 2008; Krishnan, Martin, and Noorderhaven 2006), demand volatility is operationalized by regressing industry sales against time. Subsequently, the standard error of the regression slope coefficient of the time variable is divided by the mean value of industry sales. The measure of demand volatility is based on the five years preceding the focal year.

R&D and marketing intensity. R&D intensity is measured as the ratio of R&D expenses to total assets of the organization (Bhagat and Bolton 2008; Kor and Mahoney 2005). Marketing intensity is measured as the annual Selling, General and Administrative (SG&A) expenditures

[13] We re-estimated our model using the log-transformation of this measure. Since the logarithm of zero is undefined, we added 1 to all the data points before taking the logarithm. Results remain substantively the same.

divided by total assets (Kor and Mahoney 2005). Although the SG&A measure also contains items that are not strictly marketing expenses, it is the best publicly available measure of marketing spending (see Dinner, Mizik, and Lehmann 2009 and Dutta, Narasimhan, and Rajiv 1999 for similar practice).

Control variables. We control for firm size, fixed asset intensity, and resource slack (cf. Sorescu and Spanjol 2008). *Firm size* is included, because large firms are expected to introduce more innovations. We measure firm size as the log-transformation of total sales (Kotabe, Srinivasan, and Aulakh 2002). *Fixed asset intensity* reflects the level of assets which are not easily converted into liquid assets. The higher the level of fixed asset intensity, the fewer resources are available for innovation, and the less likely it is that firms launch new products. Fixed asset intensity is measured as the ratio of fixed assets to total assets (Sorescu and Spanjol 2008). *Resource slack* refers to the presence of excess resources that the firm can use without constraining existing, ongoing activities. Thus, the higher the level of resource slack, the more resources firms can devote to innovation. Resource slack is measured as retained earnings divided by total assets (Fang, Palmatier, and Steenkamp 2008).

We lag all independent variables by one year to capture their effects on new product introduction in the following year.[14] Table 4.2 provides a summary description of our measures.

Model

We investigate the impact of outsourcing manufacturing on firm innovation by estimating a random-intercept negative binomial regression model. We use a negative binomial regression model because the dependent variable, firm innovation, is a nonnegative count variable.[15] Because our data consist of a set of individual firms over time, observations in the model are likely to be dependent. Therefore, we use a random-intercept model.

The negative binomial regression is a generalization of a Poisson regression model that accounts for an overdispersed dependent variable by including a stochastic component into the conditional mean (Brynjolfsson, Hu, and Rahman 2009; Hausman, Hall, and Griliches 1984):

[14] We re-estimated our model using two-year lags instead of one-year lags for our independent variables. Results remain substantively the same.

[15] Note that Poisson models are also appropriate for estimating count models. However, we find evidence of overdispersion ($\chi^2(1) = 549.46$, $p < .01$). Overdispersion may cause standard errors of the estimates to be underestimated in Poisson models (Cameron and Trivedi 1986). Therefore, we use negative binomial regression.

Table 4.2: Variables and Data Sources

Construct	Measure	Data Source
Firm innovation	Number of innovations the firm introduced in the focal year	- Product Launch Analytics
Outsourcing intensity	Ratio of worth of purchases to revenues, where worth of purchases equals firm's value added minus revenues	- Compustat
Demand volatility	Industry sales are regressed on year (based on 5 years prior to the focal year), and the standard error of the regression slope coefficient is divided by the mean of industry sales	- Compustat
R&D intensity	Ratio of R&D expenditures to total assets	- Compustat
Marketing intensity	Ratio of SG&A expenditures to total assets	- Compustat
Firm size	Natural logarithm of total sales	- Compustat
Fixed asset intensity	Ratio of fixed assets to total assets	- Compustat
Resource slack	Ratio of retained earnings to total assets	- Compustat

$$f\left(y_{it}\middle|X_{i,t-1}\right)=\frac{e^{-\mu_{it}}\mu_{it}^{y_{it}}}{y_{it}!} \tag{1}$$

where y_{it} is the number of innovations introduced by firm i at time t, $X_{i,t-1}$ is the vector of explanatory variables, and μ_{it} represents the conditional mean. To account for the panel structure of our data, the conditional mean has the following functional form:

$$\mu_{it}=E\left(y_{it}\middle|X_{it}\right)=\exp\begin{pmatrix} b_0+b_1 OutInt_{i,t-1}+b_2 DemVol_{i,t-1}+b_3 OutInt_{i,t-1}\times DemVol_{i,t-1} \\ +b_4 RDInt_{i,t-1}+b_5 OutInt_{i,t-1}\times RDInt_{i,t-1}+b_6 MktInt_{i,t-1} \\ +b_7 OutInt_{i,t-1}\times MktInt_{i,t-1}+b_8 FSize_{i,t-1}+b_9 FAInt_{i,t-1} \\ +b_{10} ResSlk_{i,t-1}+\nu_i+\varepsilon_{it} \end{pmatrix} \tag{2}$$

where $OutInt_{i,t-1}$ is outsourcing intensity, $DemVol_{i,t-1}$ refers to demand volatility, $RDInt_{i,t-1}$ and $MktInt_{i,t-1}$ are R&D and marketing intensity, respectively, $FSize_{i,t-1}$ is firm size, $FAInt_{i,t-1}$ refers to fixed asset intensity, $ResSlk_{i,t-1}$ is resource slack, ν_i is the random effect for firm i and ε_{it} is the residual. The exponential function ensures non-negativity.

§4.5 Results

Overall Descriptive Statistics

The firms in our sample show considerable variability in the amount of outsourcing and the number of product introductions. While some firms outsource only 14% (minimum; e.g., Finsbury Food Group), the majority of firms outsource more than 50%, with a maximum of 99% (e.g., Albert Fisher Group). With regard to firm innovation, the number of products introduced by firms per year varies from 0 (e.g., Duvel Moortgat) to 395 (e.g., Beiersdorf), with an average of more than 11 new product introductions per firm per year.[16] Table 4.3 reports descriptive statistics.

Empirical Results

Table 4.4 presents our results. To test whether multicollinearity is a concern, we calculate the variance inflation factor (VIF). The highest VIF value is 1.75, so multicollinearity is unlikely to be a problem (Judge et al. 1988).

H_1 proposes that demand volatility will negatively influence the relationship between outsourcing manufacturing and firm innovation. This hypothesis is supported (H_1: $b_3 = -26.80$, $p < .01$). H_2 and H_3 pertain to the moderating role of the firm's alternative sources of learning on the relationship between outsourcing manufacturing and firm innovation. Consistent with our second hypothesis, we find that R&D intensity has a positive moderating effect on the relationship between outsourcing manufacturing and firm innovation (H_2: $b_5 = 125.81$, $p < .01$). In contrast, the effect of marketing intensity is not significant (H_3: $b_7 = 2.86$, $p > .10$). Therefore, H_3 is rejected.

To get more insight into our interaction results, we use simple slope analysis (see e.g., Ramanathan and Dhar 2010 for similar practice). We plot the effects in Figure 4.5 for low (i.e. one standard deviation below the mean) and high (i.e. one standard deviation above the mean) values of both demand volatility and R&D intensity, and varying levels of outsourcing intensity. A low level of outsourcing intensity corresponds to approximately twenty percent of outsourced manufacturing, whereas high levels of outsourcing correspond to almost eighty percent of the manufacturing function being outsourced.

[16] Given the large variation in innovativeness across firms, we assessed the robustness of our findings by removing the least (10th percentile) and most (90th percentile) innovative firms from our sample. We found the results to be substantively the same to those of the overall sample.

Table 4.3: Descriptive Statistics and Correlation Matrix

	Mean	s.d.	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
# Innovations (X_1)	11.32	33.14	1.00							
Outsourcing intensity (X_2)	.65	.13	.02	1.00						
Demand volatility (X_3)	.04	.04	-.04	.08	1.00					
R&D intensity (X_4)	.00	.01	.18	-.10	-.06	1.00				
Marketing intensity (X_5)	.28	.16	.29	.06	.01	.20	1.00			
Firm size (X_6)	6.30	1.81	.34	.01	-.00	.11	.05	1.00		
Fixed asset intensity (X_7)	.52	.19	.05	-.36	-.04	-.07	-.11	.20	1.00	
Resource slack (X_8)	.14	.30	.19	.03	.09	-.18	.11	.28	.22	1.00

Table 4.4: Effect of Outsourcing Manufacturing on Innovation

	Hypothesized sign	b[a]	z-Value
Constant		-3.73	-14.03***
Outsourcing ratio	+/-	-.34	-.72
Industry			
Demand volatility		-3.35	-2.88***
Demand volatility x Outsourcing ratio	-	-26.80	-2.60***
Alternative sources of learning			
R&D intensity		9.94	1.81*
R&D intensity x Outsourcing ratio	+	125.81	2.85***
Marketing intensity		1.52	4.56***
Marketing intensity x Outsourcing ratio	+	2.86	.89
Control variables			
Firm size		.44	11.98***
Fixed asset intensity		-.42	-1.31*
Resource slack		.62	2.77***

*** p < .01; ** p < .05; * p < .10

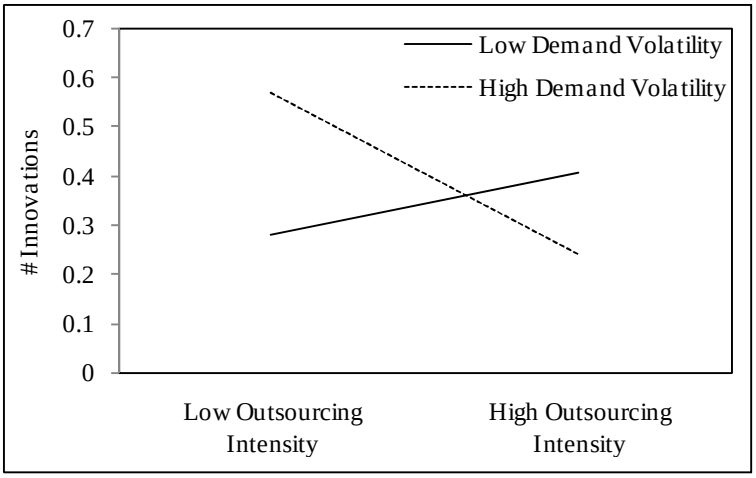
[a] We use one-sided tests for hypothesized effects and two-sided tests for non-hypothesized effects.

As we show in Panel A of Figure 4.5, when demand volatility is low, outsourcing manufacturing does not affect innovation (simple slope: b = .62, $p > .10$). In contrast, outsourcing manufacturing negatively affects innovation when demand volatility is high (simple slope: b = -1.44, $p < .05$). Panel B of Figure 4.5 shows the interaction effect of outsourcing manufacturing and R&D intensity. When R&D intensity is low, outsourcing manufacturing negatively impacts innovation (simple slope: b = -.85, $p < .05$). When R&D intensity is high, outsourcing manufacturing positively affects innovation (simple slope: b = .94, $p < .10$).

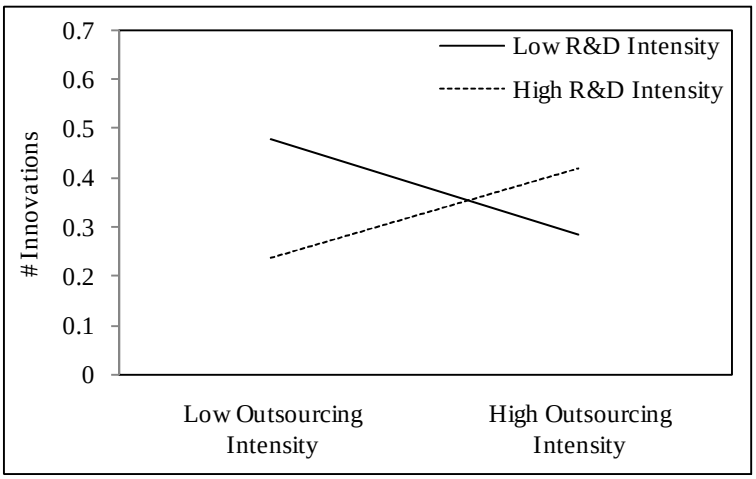
As to our control variables, we find that larger firms and firms that have a high level of resource slack generate more innovative output ($b_8 = .44$, $p < .01$ for firm size and $b_{10} = .62$, $p < .01$ for resource slack). Fixed asset intensity negatively affects innovation ($b_9 = -.42$, $p < .10$).

Figure 4.5: Interaction Effects

Panel A. The Contingent Effect of Demand Volatility



Panel B. The Contingent Effect of R&D Intensity



§4.6 Discussion

This paper highlights an important, but unresolved issue within the context of outsourcing manufacturing, i.e. does outsourcing manufacturing inhibit or stimulate innovation? Despite the fact that firms have outsourced part of their manufacturing function for more than two decades, the impact of outsourcing manufacturing on innovation is still unclear. The literature that deals with this question is inconclusive and presents arguments for both positive (e.g., Bengtsson, Haartman, and Dabhilkar 2009; Quinn 2000) and negative effects (e.g., Kotabe 1998; Kotabe,

Mol, and Murray 2008). Our focus is on the conditions that moderate the relationship between outsourcing manufacturing and firm innovation.

Implications for Theory

We show that the relationship between outsourcing manufacturing and innovative output is complex and depends on demand volatility in the firm's industry and the availability of alternative sources of learning for the firm. In particular, our research shows that manufacturing outsourcing can be either an inhibitor or a stimulus of innovation, depending on demand volatility and the firm's R&D intensity. When demand volatility is high, learning-by-doing is more crucial because of the limited time to plan carefully before executing adaptations in the manufacturing process. In this case, outsourcing manufacturing becomes an inhibitor of innovation. On the contrary, outsourcing manufacturing serves as a stimulus of innovation for R&D intensive firms. The combination of intensive outsourcing of manufacturing and high investments in R&D signals a strategic emphasis on innovation, which is more likely to stimulate creativity than optimization as problem-solving mode. In addition, R&D intensive firms are better able to learn from their outsourcing providers, which may further enhance firm innovation.

Our results add to the ongoing debate about the importance of the manufacturing function. With the rise of the knowledge economy and a more dominant service sector, many firms are underestimating the importance of manufacturing. As Ramaswamy and Rowthorn (2000, p. 32) state "Does manufacturing matter? The short answer is: not much." On the contrary, others have argued that outsourcing manufacturing leads to the hollowing out of firms, which may have caused the competitive decline of many Western firms (Bettis, Bradley, and Hamel 1992; Pisano and Shih 2009). Our results show that outsourcing manufacturing may reduce innovation under certain circumstances (i.e. high demand volatility), but increase innovation under other circumstances (i.e. high R&D intensity). Thus, it is not a question of whether manufacturing is important, but rather a question of when manufacturing is important.

Managerial Implications

Many firms are attracted to outsourcing manufacturing because of the cost reductions that can be attained, and thus adopt a short-term perspective (Momme and Hvolby 2002). However, as our results indicate, the implications of outsourcing manufacturing are beyond cost reductions alone. Firms should take a more strategic perspective and take into account the effects of outsourcing on innovation. Indeed, once firms have started to outsource manufacturing, it may be difficult to

reverse this decision if it turns out to inhibit innovation, because of the permanent loss of knowledge and the substantial costs inherent to backsourcing (Whitten, Chakrabarty, and Wakefield 2010).

In addition, the trend of outsourcing manufacturing is accompanied by such techniques as lean manufacturing and Six Sigma (Klier 1994). Lean manufacturing mainly focuses on the trade-off between cost, quality, and efficiency. Six Sigma is a tool often associated with lean manufacturing and focuses on quality improvement (Arnheiter and Maleyeff 2005). In support of lean manufacturing principles, firms outsource their manufacturing function in the conviction that it will increase firm performance. However, Anderson (2004) already noted that it is hard for outsourcing firms to achieve high quality levels by implementing Six Sigma, because of the lack of control outsourcing firms have over their providers. We add to this finding by showing that firm innovation also may suffer.

Limitations and Future Research

Our study has several limitations that provide directions for future research. First, we test our conceptual framework in the CPG industry. Future research could test the relationship between outsourcing manufacturing and firm innovation in other industries to increase the generalizability of our findings. Second, our innovation metric (number of new product introductions) does not allow us to distinguish the extent to which the newly introduced products provide meaningfully unique benefits (Sethi, Smith, and Park 2001). Moreover, not all new product introductions will be successful. Future research could extend our work by distinguishing successful from unsuccessful, and incremental from radical, product innovations. Finally, as customers are confronted with more and more choice, they are becoming increasingly demanding. Mass customization, the mass production of individually customized products (Fiore, Lee, and Kunz 2004), is sometimes proposed as a suitable strategy to address the needs of these more demanding customers. Mass customization requires that firms are knowledgeable about their ‘individual’ customer needs. When firms outsource their manufacturing function, they should assure that the outsourcing provider collects the necessary customer information or that it transfers the required information to the outsourcing provider. Neither of these options is straightforward. Future research could therefore address the question whether and how outsourcing manufacturing can be reconciled with the strategy of mass customization.

Chapter 5
Conclusions and Future Research

Outsourcing has developed into a huge trend. Not only are more and more firms turning to outsourcing, these firms are also outsourcing more and more different types of activities. Consequently, the question is not so much whether to outsource, but, rather, how to outsource successfully. This dissertation focuses on the performance implications of outsourcing and examines conditions under which outsourcing may be a successful strategy. This chapter discusses the main findings in §5.1, managerial and theoretical implications in §5.2, and directions for further research in §5.3.

§5.1 Summary and Conclusions

What distinguishes successful from unsuccessful outsourcing practices? This dissertation contains three chapters aimed at answering this question. In the following subsections, we provide a separate conclusion per chapter.

Chapter 2 When Does Outsourcing Customer Support Affect Firm Value?

Although customer-support outsourcing is all the rage, many firms are unsuccessful. Results from an event study indicate that, on average, the impact of outsourcing customer support on shareholder value is positive. At the same time, the performance consequences of outsourcing customer support differ substantially across firms. Whereas about half of the firms is evaluated positively by investors, the other half is evaluated negatively.

Using transaction cost analysis, we hypothesize how the performance implications of

outsourcing customer support are contingent upon the type of customer support that is being outsourced, the institutional context surrounding the outsourcing relationship, and the mechanisms that are used to govern the outsourcing arrangement. We find that outsourcing customer support is more negative when the outsourced customer support activity involves personal customer contact or when it requires specialized knowledge. The performance implications of outsourcing customer support are unrelated to labor-cost savings. Outsourcing to culturally distant countries is performance-diminishing, whereas outsourcing to countries with more stringent business regulations is performance-enhancing. Finally, the performance consequences of customer-support outsourcing are more favorable when firms use multisourcing to govern the outsourcing relationship. The use of minority equity participation and prior tie selection does not affect the performance implications of outsourcing customer support.

Chapter 3 The Market Valuation of Outsourcing New Product Development

As companies have grown comfortable with outsourcing, they have started to outsource strategic business functions that until recently had not been outsourced, such as new product development (NPD). An empirical test shows that the effect of outsourcing NPD on the outsourcing firm's shareholder value is, on average, positive. There is, however, considerable variation in the performance implications of NPD outsourcing.

We develop a contingency framework to explain whether and when taking a minority equity participation in the outsourcing provider versus selecting an outsourcing provider with whom one shares a history of prior ties may increase the outsourcing firm's performance. We find that which governance mechanism is superior depends on two forms of uncertainty. A minority equity participation enhances performance under technological uncertainty but not under behavioral uncertainty created by cultural distance. In contrast, prior tie selection is performance-enhancing under cultural distance, but exacerbates technological uncertainty problems. In addition, we find that prior tie selection can solve the performance-diminishing effect of minority equity participation under cultural distance, but minority equity participation cannot solve the performance-diminishing effect of prior tie selection under technological uncertainty. We explain these differential effects through the different control and coordination problems that are created by technological uncertainty and cultural distance.

Chapter 4 Does Outsourcing Manufacturing Enhance or Erode Firms' Innovativeness?

Attracted by potential cost reductions, an increasing number of firms are outsourcing manufacturing. However, it is still unclear what the performance implications of outsourcing manufacturing are in terms of innovative output. Whereas some argue that outsourcing manufacturing reduces firm innovation – because firms lose the process of learning-by-doing – others argue that outsourcing manufacturing stimulates innovation -- because outsourcing provokes a shift from an efficiency focus to an innovation focus and enables learning from partners.

Using a contingency approach, we hypothesize that the effect of outsourcing manufacturing on firm innovation depends on demand volatility, the outsourcing firm's R&D intensity, and its marketing intensity. We find that outsourcing manufacturing leads to less firm innovation when demand volatility is high. In contrast, outsourcing manufacturing leads to more firm innovation when the outsourcing firm invests more heavily in R&D. Marketing intensity does not affect the relationship between outsourcing manufacturing and firm innovation.

§5.2 Implications

The findings of this dissertation help outsourcing firms to get more insight into the factors that impact the performance consequences of outsourcing.

Managerial Implications When the Firm Outsources Customer Support

Chapter 2 concerns the impact of outsourcing customer support on the financial value of the firm. Three major implications can be derived from the findings of this study, i.e. (1) know what to outsource, (2) know where to outsource, and (3) know how to outsource.

Know what to outsource. Managers of the outsourcing firm should recognize that not all customer support functions are the same. Contrary, customer support functions differ in several respects, such as the personal nature of the contact (i.e. personal versus impersonal) and the extent of specialized knowledge. In general, personal customer contact is more variable in nature, is a more valuable source of market information, and influences customer evaluations more strongly than impersonal customer contact. Consequently, when the customer support activity requires personal customer contact the performance implications of outsourcing customer support will be affected negatively. Customer-support activities requiring high levels of specialized

knowledge are not good candidates for outsourcing either, as these activities need more investments in training and education than customer-support activities requiring low levels of specialized knowledge.

Know where to outsource. The findings of this study emphasize that the choice of outsourcing customer support should not be based on labor-cost savings alone. Rather, the cultural distance between the outsourcing firm and its provider and the regulatory system of the outsourcing provider's country should be taken into account. When the outsourcing provider is culturally more distant, the outsourcing firm will be faced with a higher risk of opportunistic behavior of the outsourcing provider. Moreover, cultural distance introduces communication difficulties that further increase the costs of outsourcing customer support. In addition, when the regulatory system of the outsourcing provider's country is weak, it is likely that the costs of outsourcing customer support will increase. Thus, outsourcing firms should not outsource to countries that are culturally distant or have a weak regulatory system

Know how to outsource. To govern the outsourcing arrangement, outsourcing firms are advised to use multisourcing. That is, outsourcing firms are better off by using multiple outsourcing providers to perform the outsourced customer-support function. Although it is more difficult and costly for the outsourcing firm to coordinate multiple outsourcing providers, these costs can be more than offset by cost savings resulting from the lower dependence on a single outsourcing provider and the increased competition among outsourcing providers that stimulates best practice. In contrast, the use of dyadic governance mechanisms, i.e. minority equity participation and prior tie selection, does not influence the performance implications of outsourcing customer support.

Managerial Implications When the Firm Outsources New Product Development

Chapter 3 examines the financial performance consequences of outsourcing NPD and gives managers some direction in terms of how to govern the outsourcing arrangement (i.e. minority equity participation and/or prior tie selection) when they face technological uncertainty or a culturally distant outsourcing provider.

Effective governance under technological uncertainty. When outsourcing firms are operating in a technologically uncertain environment, a minority equity stake will be the most effective governance mechanism, because it will help firms to deal with the control concerns

(opportunistic renegotiation due to incomplete contracts) and the coordination concerns (obtaining access to new technologies while remaining flexible) created by technological uncertainty. In contrast, prior tie selection exacerbates the control and coordination problems created by high technological uncertainty, and thus will lead to less favorable performance consequences of outsourcing NPD. Moreover, these problems cannot be solved by simultaneously taking a minority equity stake and selecting an outsourcing provider with whom the outsourcing firm shares a relationship history. Such an outsourcing provider is less able to come up with creative solutions and, as a consequence, a minority equity participation represents an option on inferior resources. Indeed, the simultaneous use of these governance mechanisms leads to even lower performance consequences.

Effective governance under cultural distance. When firms are outsourcing to culturally distant outsourcing providers, they are advised to select outsourcing providers with whom they share a prior tie. In this way, firms are able to deal with the control concerns (opportunistic miscommunication that is hard to detect because of information asymmetry) and coordination concerns (honest misunderstandings that make knowledge transfer difficult) created by cultural distance. In contrast, a minority equity stake does not help to solve the control and coordination problems created by cultural distance, and thus will not lead to more favorable performance consequences of outsourcing NPD. Yet, when cultural distance is high, minority equity participation and prior tie selection serve as complements (as opposed to the case of high technological uncertainty where these governance mechanisms are not complementary). The benefits of prior tie selection, i.e. higher levels of behavioral predictability and social identification, a common language for discussion, and an increased mutual understanding, complement a minority equity participation to address control and coordination concerns. Thus, in the case of high cultural distance, outsourcing firms are able to create more favorable performance consequences of outsourcing NPD by simultaneously using minority equity participation and prior tie selection as governance mechanisms.

It is interesting to relate and compare a number of findings of chapters 2 and 3. First, we find that both outsourcing customer support and outsourcing NPD are, on average, evaluated positively by investors. These findings contradict the belief that firms should only outsource routine activities, since outsourcing non-routine activities hollows out organizations (Quinn and Hilmer 1994;

Rothery and Robertson 1995). A possible explanation could be that investors are increasingly recognizing (1) the need for offering consumers 24/7 customer support and (2) the need for an open innovation model. At the same time, both studies show that it is incorrect to conclude that all customer-support outsourcing and NPD outsourcing arrangements are good business decisions. Contrary, the logic is more intricate. As our results indicate, the performance implications of outsourcing are contingent on various factors, such as for example environmental conditions and the governance mechanisms employed by the outsourcing firm.

Second, the results show important differences with regard to the effects of different governance mechanisms. In chapter two, we find that dyadic governance mechanisms (i.e. minority equity participation and prior tie selection) are unrelated to the performance implications of outsourcing customer support. In contrast, in chapter 3, we find that both dyadic governance mechanisms are essential to deal with external and internal uncertainty. We argue that these different findings across chapters 2 and 3 can be explained by (i) the difference in the function being outsourced and (ii) the difference in the stakeholders that are involved. Minority equity participation is more valuable in case of outsourcing NPD than in case of outsourcing customer support. Whereas equity participation addresses control *and* coordination concerns when firms are outsourcing NPD[17], it mainly addresses control concerns when firms outsource customer support activities. Recall that coordination concerns pertain to the need for the outsourcing firm to coordinate resource and information flows with the outsourcing provider. In an NPD environment, these resource and information flows pertain to critical knowledge-based capabilities. Although the firm and its provider should also transfer information in the case of outsourcing customer support, the knowledge being transferred is less critical and consequently the coordination problems will be less pertinent. Thus, the cost of taking an equity stake is more easily offset against the control *and* coordination advantages that equity participation creates in the case of outsourcing NPD, but apparently is not offset by the control advantages that equity participation brings in the case of outsourcing customer support.

As to prior tie selection, we argue that the different findings between chapter 2 (prior tie selection is unrelated to the performance implications of outsourcing customer support) and

[17] Especially the coordination concerns are important in the context of outsourcing NPD, as was evidenced by our significant three-way interaction between minority equity participation, prior tie selection, and technological uncertainty. This interaction helped us to determine whether the negative interaction between prior tie selection and technological uncertainty is mainly due to a control or coordination problem. Indeed, as our results show, the effect is driven by coordination concerns.

chapter 3 (prior tie selection helps to address the control and coordination concerns caused by external and internal uncertainty in case of outsourcing NPD) can be attributed to the different stakeholders involved in the outsourcing process. Whereas prior tie selection facilitates communication between the outsourcing firm and its provider, regardless of the function being outsourced, it does not facilitate communication between the outsourcing provider and the end users (customers) of the outsourcing firm. Consequently, when firms outsource customer support, it could well be the case that these customers experience difficulties in communicating with the outsourcing provider. Firms that outsource NPD will not encounter this problem, because their end users/customers are not involved in the outsourcing process.

In addition, chapters 2 and 3 differ with regard to multisourcing. Whereas several firms that outsource customer support select multiple outsourcing providers (12% of our sample), none of the firms in our NPD sample used multisourcing. We attribute this difference to the complexity of NPD outsourcing arrangements. In particular, knowledge transfer inherent to outsourcing NPD may be a barrier for selecting multiple outsourcing providers.

Managerial Implications When the Firm Outsources Manufacturing

Chapter 4 focuses on the impact of outsourcing manufacturing on firm innovation. Managers can learn from this chapter under which circumstances outsourcing their manufacturing activities stimulates versus inhibits their innovativeness.

Learning-by-doing can be crucial. Firms should realize that learning-by-doing is important in the context of high demand volatility. Outsourcing manufacturing will reduce the firms' ability to innovate under this condition. In essence, when demand volatility is high, firms need to be able to make instantaneous changes to their products to meet changing customer needs and preferences. Through direct involvement in manufacturing, firms are continuously able to recognize new product possibilities that may be relevant to specific product markets (through learning-by-doing) and to exploit these possibilities through immediate adaptations in the manufacturing process.

Alternative sources of learning are important. When firms decide to outsource manufacturing, they should invest in alternative learning processes, i.e. learning-by-searching, to keep up their innovation level. Especially firms that invest more heavily in R&D can benefit from outsourcing manufacturing. By outsourcing the manufacturing function, R&D intensive firms are

likely to develop an organizational culture oriented toward the creation of new knowledge rather than production efficiency and cost minimization. Additionally, these firms are able to learn from their outsourcing providers by means of absorptive capacity.

Chapter 4 shows that innovation is an important performance metric to be taken into account when outsourcing manufacturing. This result complements our findings from chapters 2 and 3 that outsourcing decisions should not be narrowed down to a mere labor-cost-savings decision. As the results of chapters 2 and 3 show, labor-cost savings do not affect outsourcing performance. Thus, while labor-cost savings are the primary reason for outsourcing (see Table 1.1), it does not affect the market valuation of outsourcing firms.

§5.3 Future Research Directions

This dissertation provides valuable insights with regard to the performance implications of outsourcing. In this section, we identify a number of possible directions for future research. First, we will discuss three different types of outsourcing that would benefit from more research, i.e. multisourcing, crowdsourcing, and backsourcing. Subsequently, we will focus on future research issues related to the outsourcing process, i.e. partner selection and outsourcing contracts. Finally, the perspective of the outsourcing provider offers interesting future research opportunities.

Different Types of Outsourcing

Multisourcing. Until recently, it was common for firms to select a single outsourcing provider that performed the outsourced activity. Nowadays, more and more firms are selecting multiple outsourcing providers that carry out the same outsourced task (Levina and Su 2008; Nagle and Maughan 2007/08), a phenomenon known as multisourcing (Cohen and Young 2006).

As discussed in chapter 2, firms should use multiple outsourcing providers when they outsource their customer-support activities. Future research could complement these findings by studying the management of multiple outsourcing providers. For instance, it is possible that one outsourcing provider's activities adversely affect the activities of another outsourcing provider. Moreover, each outsourcing provider must be governed through the appropriate governance mechanisms, which may differ across outsourcing providers. In addition, if firms divide interrelated activities between multiple outsourcing providers, the management of outsourcing

relationships becomes even more complicated. In this case, outsourcing providers are interdependent and the outsourcing firm risks that inconsistencies arise between the performed activities of each of the different outsourcing providers. Future research could take a network perspective, and provide more insight into the division of tasks among several outsourcing providers, the alignment of the different objectives of the outsourcing firm and its providers through customized governance mechanisms, and the stimulation of cooperation between outsourcing providers.

Crowdsourcing. Through the emergence of new internet applications, crowdsourcing has arisen as a new form of outsourcing (Kleemann, Voß, and Rieder 2008). Crowdsourcing can be defined as "the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call" (Howe 2006). Firms are outsourcing different activities, such as new product development, product design, and marketing campaigns to consumers. Today, large companies as Dell, Philips, and Procter & Gamble are already making use of crowdsourcing.

Crowdsourcing is interesting for future research from the perspective of both the customer and the outsourcing firm. From the customer point of view, one may wonder what customers' motives are to come up with new ideas in exchange for a small or even no reward. Moreover, an interesting question is whether crowdsourcing increases customer value. More specifically, does crowdsourcing indeed lead to better products or services, as is expected by most managers? A question that arises from the outsourcing firm's perspective is, for instance, whether crowdsourcing leads to better financial performance (e.g., profitability) and non-financial performance (e.g., brand awareness). Additionally, it is of interest to examine how new media, especially social media like Facebook and Twitter, can help outsourcing firms to take more advantage of crowdsourcing.

Backsourcing. Backsourcing can be defined as "the action of bringing an outsourced service or good back in-house" (Tadelis 2007, p. 265). Different organizations, including Dell, AT&T, Capital One, and J.P. Morgan Chase, have decided to backsource some of their outsourced activities (Li and Choi 2009). Future research could address what the main drivers of backsourcing are. Are there external factors (e.g., underperformance outsourcing provider, end of contract) that encourage outsourcing firms to backsource, or are there factors that are internal to the outsourcing firm that drive backsourcing (e.g., unrealized cost savings, loss of control)? By

analyzing what reasons outsourcing firms have to backsource, we may get a better understanding of why so many outsourcing arrangements fail, and hence are able to complement our findings. A related question is why firms opt for backsourcing rather than switching to a new outsourcing provider (when, for example, the outsourcing provider is underperforming) or renew the contract (in case the contract ends). Backsourcing is an expensive strategic turnaround. Firms not only have to incur high expenses to rebuild the outsourced activity, but often are faced with high termination fees as well (Wong, Rahman, and Jaya 2008). Moreover, by backsourcing firms 'admit' that they made inappropriate strategic decisions in the past, which may have consequences for the market valuation of the firm and its reputation. Future research could test this.

The Outsourcing Process

Partner selection. A crucial step in the outsourcing process is the selection of an outsourcing provider. Partner selection can strongly influence later stages of the outsourcing arrangement, including the effective management of the outsourcing relationship and the need for governance (Dekker 2008). Because the outsourcing provider base is diverse and growing, the challenge for outsourcing firms is to understand their own needs and identify outsourcing providers whose capabilities and objectives are best aligned with these needs (Feeny, Lacity, and Willcocks 2005). However, this is far from straightforward. In contrast to other interfirm relationships, such as strategic alliances, where the objective is to establish and maintain a long-term relationship to compete with other firms outside the relationship (Hitt et al. 2000), outsourcing relationships are typically characterized by divergent objectives. In addition, the partner selection process is largely based on perceptions of the outsourcing firm about the capabilities of the outsourcing provider, introducing uncertainty in the selection process. The outsourcing firm should overcome these challenges and determine specific selection criteria to optimize the selection process. Future research could examine the overall relationship between partner selection and the outsourcing firm's performance and test which factors in the selection process are critical for the success of the outsourcing relationship. A dynamic approach is called for since selection criteria may change over time.

Outsourcing contracts. Future research could provide more insight into the contractual issues between the outsourcing firm and its provider. For example, future research could code

outsourcing contracts with regard to different terms, such as those associated with (i) product and price, (ii) after-sales service, (iii) assignment of rights, and (iv) legal recourse. The first two types of terms include provisions specifying the detailed terms of trade as well as product and service performance specifications. The third category of terms includes provisions concerning intellectual property, antipiracy measures, and nondisclosure. The last type of terms specifies how the transacting parties will identify and resolve potential disputes (Anderson and Dekker 2005). It would be interesting to examine whether and how the presence or absence of different contractual terms influences the outsourcing provider's behavior, and how this in turn will influence the outsourcing firm's performance.

The Perspective of the Outsourcing Provider

The chapters in this dissertation take the perspective of the outsourcing firm.[18] Research conducted from the perspective of the outsourcing provider is scarce (see Heide and Weiss 1995 for an exception), but no less important. Since the outsourcing market is growing, the base of outsourcing providers is becoming larger. A critical question for outsourcing providers is, therefore, how they can obtain entry into the consideration set of the outsourcing firm and thus increase their chances of being selected as an outsourcing provider. An analysis of which factors outsourcing firms perceive as critical in compiling their consideration set, may help outsourcing providers to formulate their (marketing) strategies to attract new outsourcing firms, but also to retain current ones. Another avenue for further research is to examine how outsourcing providers can maximize their performance. Too often, outsourcing providers are inclined to underprice to win outsourcing contracts (Jiang, Yao, and Feng 2008), a strategy that is likely to lead to lower performance. Moreover, along with the development that outsourcing contracts become smaller in value and contract durations become shorter, outsourcing firms are gaining more power. In particular, outsourcing providers face the threat of losing business. Future research could provide insight into how outsourcing providers can hedge against this threat, and how this in turn may influence the outsourcing provider's performance.

[18] Since outsourcing providers are often located in countries where firm-specific information is poorly documented and because outsourcing firms are often reluctant to announce the outsourcing provider's name, it was difficult to obtain information on the outsourcing provider.

§5.4 To Close

For some, outsourcing is the future. Others debunk the value of outsourcing and have negative attitudes towards outsourcing. Whatever the debate is, nobody is able to get around the outsourcing trend and it shows no signs of slowing down. This dissertation shows that outsourcing, if implemented carefully, can be a powerful strategy to improve firm performance.

References

A

Abraham, Katharine G. and Susan K. Taylor (1996), "Firms' Use of Outside Contractors: Theory and Evidence," *Journal of Labor Economics*, 14 (3), 394-424.

Ahmadjian, Christina L. and James R. Lincoln (2001), "*Keiretsu*, Governance, and Learning: Case Studies in Change from the Japanese Automotive Industry," *Organization Science*, 12 (6), 683-701.

Akşin, Zeynep O., Francis de Véricourt, and Fikri Karaesmen (2008), "Call Center Outsourcing Contract Analysis and Choice," *Management Science*, 54 (2), 354-368.

Alster, Norm (2005), "Customer Disservice?," *CFO Magazine*, October 26, 40.

Anderson, David M. (2004), *Build-to-Order and Mass Customization: The Ultimate Supply Chain Management and Lean Manufacturing Strategy for Low-Cost On-Demand Production without Forecasts or Inventory*, Cambria, CA: CIM Press.

Anderson, Erin and Hubert Gatignon (1986), "Modes of Foreign Entry: A Transaction Cost Analysis and Propositions," *Journal of International Business Studies*, 17 (3), 1-26.

Anderson, Erin and Barton Weitz (1989), "Determinants of Continuity in Conventional Industrial Channel Dyads," *Marketing Science*, 8 (4), 310-323.

Anderson, Shannon W. and Henri C. Dekker (2005), "Management Control for Market Transactions: The Relation Between Transaction Characteristics, Incomplete Contract Design, and Subsequent Performance," *Management Science*, 51 (12), 1734-1752.

Apte, Uday M. and Richard O. Mason (1995), "Global Disaggregation of Information-Intensive

Services," *Management Science*, 41 (7), 1250-1262.

Arnheiter, Edward D. and John Maleyeff (2005), "The Integration of Lean Management and Six Sigma," *The TQM Magazine*, 17 (1), 5-18.

B

Bacharach, Samuel B. and Edward J. Lawler (1981), "Power and Tactics in Bargaining," *Industrial and Labor Relations Review*, 34 (2), 219-233.

Baiman, Stanley and Madhav V. Rajan (2002), "Incentive Issues in Inter-Firm Relationships," *Accounting, Organizations and Society*, 27 (3), 213-238.

Baird Investment Banking (2007), "Outsourced Customer Care M&A," (accessed October 25, 2010), available at http://www.rwbaird.com.

Barbier, Joel, Mary de Wysocki, Steve du Mont, Sharon Finke, Shaun Kirby, James Macaulay, Mike McLaughlin, Waseem Sheikh, Jon Stine, and Ronald van Zanten (2007), "Improving Innovation Productivity in the Consumer Packaged Goods Industry," research report, Cisco Internet Business Solutions Group (IBSG).

Barney, Jay (1991), "Firm Resources and Sustained Competitive Advantage," *Journal of Management*, 17 (1), 99-120.

Barthélemy, Jérôme (2003), "The Seven Deadly Sins of Outsourcing," *Academy of Management Executive*, 17 (2), 87-98.

Baum, Robert J. and Stefan Wally (2003), "Strategic Decision Speed and Firm Performance," *Strategic Management Journal*, 24 (11), 1107-1129.

Belenzon, Sharon and Tomer Berkovitz (2010), "Innovation in Business Groups," *Management Science*, 56 (3), 519-535.

Bengtsson, Lars and Mandar Dabhilkar (2009), "Manufacturing Outsourcing and its Effect on Plant Performance – Lessons for KIBS Outsourcing," *Journal of Evolutionary Economics*, 19 (2), 231-257.

Bengtsson, Lars, Robin von Haartman, and Mandar Dabhilkar (2009), "Low-Cost versus Innovation: Contrasting Outsourcing and Integration Strategies in Manufacturing," *Creativity and Innovation Management*, 18 (1), 35-47.

Berger, Paul D. and Amy Z. Zeng (2006), "Single *versus* Multiple Sourcing in the Presence of Risks," *Journal of the Operational Research Society*, 57 (3), 250-261.

Bettis, Richard A., Stephen P. Bradley, and Gary Hamel (1992), "Outsourcing and Industrial

Decline," *Academy of Management Executive*, 6 (1), 7-22.

Bhagat, Sanjai and Brian Bolton (2008), "Corporate Governance and Firm Performance," *Journal of Corporate Finance*, 14, 257-273.

Bharadwaj, Neeraj and Anne L. Roggeveen (2008), "The Impact of Offshored and Outsourced Call Service Centers on Customer Appraisals," *Marketing Letters*, 19 (1), 13-23.

Bitner, Mary Jo (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54 (2), 69-82.

Boerner, Christopher S. and Jeffrey T. Macher (2002), "Transaction Cost Economics: An Assessment of Empirical Research in the Social Sciences," Working paper, Haas School of Business, University of California, Berkeley.

Bowen, David E. and Gareth R. Jones (1986), "Transaction Cost Analysis of Service Organization-Customer Exchange," *Academy of Management Review*, 11 (2), 428-441.

Boyd, Brian K. (1995), "CEO Duality and Firm Performance: A Contingency Model," *Strategic Management Journal*, 16 (4), 301-312.

Bradach, Jeffrey L. and Robert G. Eccles (1989), "Price, Authority, and Trust: From Ideal Types to Plural Forms," *Annual Review of Sociology*, 15, 97-118.

Brown, Shona L. and Kathleen M. Eisenhardt (1995), "Product Development: Past Research, Present Findings, and Future Directions," *Academy of Management Review*, 20 (2), 343-378.

Brynjolfsson, Erik, Yu (Jeffrey) Hu, and Mohammad S. Rahman (2009), "Battle of the Retail Channels: How Product Selection and Geography Drive Cross-Channel Competition," *Management Science*, 55 (11), 1755-1765.

Burgess, Steven M. and Jan-Benedict E.M. Steenkamp (2006), "Marketing Renaissance: How Research in Emerging Markets Advances Marketing Science and Practice," *International Journal of Research in Marketing*, 23 (4), 337-356.

Burke, Gerard J., Janice E. Carillo, and Asoo J. Vakharia (2007), "Single versus Multiple Supplier Sourcing Strategies," *European Journal of Operational Research*, 182 (1), 95-112.

C

Calantone, Roger J., C. Anthony di Benedetto, and Richard Divine (1993), "Organisational, Technical and Marketing Antecedents for Successful New Product Development," *R&D Management*, 23 (4), 337-351.

Cameron, Colin A. and Pravin K. Trivedi (1986), "Econometric Models Based on Count Data:

Comparisons and Applications of Some Estimators and Tests," *Journal of Applied Econometrics*, 1 (1), 29-53.

Carson, Stephen J. (2007), "When to Give Up Control of Outsourced New Product Development," *Journal of Marketing*, 71 (1), 49-66.

Chan, Su Han, John W. Kensinger, Arthur J. Keown, and John D. Martin (2004), "Minority Equity Investments and Inter-Firm Collaborations," *Research in Finance*, 21, 17-44.

Chaney, Paul K., Timothy M. Devinney, and Russell S. Winer (1991), "The Impact of New Product Introductions on the Market Value of Firms," *The Journal of Business*, 64 (4), 573-610.

Child, John and David Faulkner (1998), *Strategies of Cooperation: Managing Alliances, Networks, and Joint Ventures*, Oxford: Oxford University Press.

Choi, Thomas Y. and Daniel R. Krause (2006), "The Supply Base and its Complexity: Implications for Transaction Costs, Risks, Responsiveness, and Innovation," *Journal of Operations Management*, 24 (5), 637-652.

Cohen, Linda (2006), "Outsourcing Questions," (accessed October 25, 2010), available at http:// www.blogsource.org/2006/04/outsourcing_que.html.

Cohen, Linda and Allie Young (2006), *Multisourcing: Moving Beyond Outsourcing to Achieve Growth and Agility*, Boston, MA: Harvard Business School Press.

Cohen, Wesley M. and Daniel A. Levinthal (1989), "Innovation and Learning: The Two Faces of R&D," *The Economic Journal*, 99 (397), 569-596.

Cohen, Wesley M. and Daniel A. Levinthal (1990), "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly*, 35 (1), 128-152.

Corbett (2005), "Outsourcing: The Next Ten Years," research report, International Association of Outsourcing Professionals (IAOP).

Cui, Anna Shaojie, David A. Griffith, and S. Tamer Cavusgil (2005), "The Influence of Competitive Intensity and Market Dynamism on Knowledge Management Capabilities of Multinational Corporation Subsidiaries," *Journal of International Marketing*, 13 (3), 32-53.

D

Daga, Vikash and Noshir F. Kaka (2006), "Taking Offshoring Beyond Labor Cost Savings," *The McKinsey Quarterly*, 34-35.

Dekker, Henri C. (2008), "Partner Selection and Governance Design in Interfirm Relationships," *Accounting, Organizations and Society*, 33 (7/8), 915-941.

Delattre, Al, Tom Hess, and Ken Chieh (2003), "Strategic Outsourcing: Electronics Manufacturing Transformation in Changing Business Climates," research report, Accenture.

Deloitte Consulting (2005), "Calling a Change in the Outsourcing Market: The Realities for the World's Largest Organizations," (accessed October 25, 2010), available at http://www.deloitte.com.

Dhar, Sanjay K. and Stephen J. Hoch (1997), "Why Store Brand Penetration Varies by Retailer," *Marketing Science*, 16 (3), 208-227.

Dinner, Isaac, Natalie Mizik, and Donald Lehmann (2009), "The Unappreciated Value of Marketing: The Moderating Role of Changes in Marketing and R&D Spending on Valuation of Earnings Reports," Marketing Science Institute Special Report 09-204.

Doz, Yves L. (1996), "The Evolution of Cooperation in Strategic Alliances: Initial Conditions or Learning Processes?," *Strategic Management Journal*, 17 (S1), 55-83.

Dun and Bradstreet (2000), "Dun and Bradstreet's Barometer of Global Outsourcing," (accessed October 25, 2010), available at http://www.dnb.com.

Dutta, Shantanu, Om Narasimhan, and Surendra Rajiv (1999), "Success in High-Technology Markets: Is Marketing Capability Critical?," *Marketing Science*, 18 (4), 547-568.

Dyer, Jeffrey H. and Harbir Singh (1998), "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage," *Academy of Management Review*, 23 (4), 660-679.

E

Edelman, Lauren B. and Mark C. Suchman (1997), "The Legal Environments of Organizations," *Annual Review of Sociology*, 23, 479-515.

F

Fama, Eugene F. (1998), "Market Efficiency, Long-Term Returns, and Behavioral Finance," *Journal of Financial Economics*, 49 (3), 283-306.

Fang, Eric (Er), Robert W. Palmatier, and Jan-Benedict E.M. Steenkamp (2008), "Effect of Service Transition Strategies on Firm Value," *Journal of Marketing*, 72 (5), 1-14.

Fee, C. Edward, Charles J. Hadlock, and Shawn Thomas (2006), "Corporate Equity Ownership and the Governance of Product Market Relationships," *Journal of Finance*, 61 (3), 1217-1251.

Feeny, David, Mary Lacity, and Leslie P. Willcocks (2005), "Taking the Measure of Outsourcing Providers," *MIT Sloan Management Review*, 46 (3), 40-49.

Fiore, Ann Marie, Seung-Eun Lee, and Grace Kunz (2004), "Individual Differences, Motivations, and Willingness to Use a Mass Customization Option for Fashion Products," *European Journal of Marketing*, 38 (7), 835-849.

Flores, Ricardo G. and Ruth V. Aguilera (2007), "Globalization and Location Choice: An Analysis of US Multinational Firms in 1980 and 2000," *Journal of International Business Studies*, 38 (7), 1187-1210.

Folta, Timothy B. and Kent D. Miller (2002), "Real Options in Equity Partnerships," *Strategic Management Journal*, 23 (1), 77-88.

Frambach, Ruud T., Jaideep Prabhu, and Theo M.M. Verhallen (2003), "The Influence of Business Strategy on New Product Activity: The Role of Market Orientation," *International Journal of Research in Marketing*, 20 (4), 377-397.

G

Gartner (2005), "Gartner Says 80 percent of Customer Service Outsourcing Projects Aimed to Cut Costs are Destined to Fail: Highlights from Gartner Customer Relationship Management Summit in London," (accessed October 25, 2010), available at http://www.gartner.com.

Gatignon, Hubert and Thomas S. Robertson (1989), "Technology Diffusion: An Empirical Test of Competitive Effects," *Journal of Marketing*, 53 (1), 35-49.

Geis, George S. (2007), "Business Outsourcing and the Agency Cost Problem," *The Notre Dame Law Review*, 82 (3), 955-1004.

George, Jim (2007), "Survey Spotlights Buyer Issues as Use of Contracted Services Grow," *Contract Packaging Magazine*, 14-19.

Geyskens, Inge, Katrijn Gielens, and Marnik G. Dekimpe (2002), "The Market Valuation of Internet Channel Additions," *Journal of Marketing*, 66 (2), 102-119.

Geyskens, Inge, Jan-Benedict E.M. Steenkamp, and Nirmalya Kumar (2006), "Make, Buy, or Ally: A Transaction Cost Theory Meta-Analysis," *Academy of Management Journal*, 49 (3), 519-543.

Ghoshal, Sumantra and Peter Moran (1996), "Bad for Practice: A Critique of the Transaction Cost Theory," *Academy of Management Review*, 21 (1), 13-47.

Gielens, Katrijn, Linda M. van de Gucht, Jan-Benedict E.M. Steenkamp, and Marnik G. Dekimpe (2008), "Dancing With a Giant: The Effect of Wal-Mart's Entry into the United Kingdom on the Performance of European Retailers," *Journal of Marketing Research*, 45 (5), 519-534.

Gilley, K. Matthew, Charles R. Greer, and Abdul A. Rasheed (2004), "Human Resource Outsourcing and Organizational Performance in Manufacturing Firms," *Journal of Business Research*, 57 (3), 232-240.

Gilley, K. Matthew and Abdul A. Rasheed (2000), "Making More by Doing Less: An Analysis of Outsourcing and its Effects on Firm Performance," *Journal of Management*, 26 (4), 763-790.

Gong, Yaping, Oded Shenkar, Yadong Luo, and Mee-Kau Nyaw (2001), "Role Conflict and Ambiguity of CEOs in International Joint Ventures: A Transaction Cost Perspective," *Journal of Applied Psychology*, 86 (4), 764-773.

Gottfredson, Mark, Rudy Puryear, and Stephen Phillips (2005), "Strategic Sourcing: From Periphery to the Core," *Harvard Business Review*, 83 (2), 132-139.

Granovetter, Mark (1985), "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, 91 (3), 481-510.

Grant, Robert M. (1991), "The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation," *California Management Review*, 33 (3), 114-135.

Grayson, Kent and Tim Ambler (1999), "The Dark Side of Long-Term Relationships in Marketing Services," *Journal of Marketing Research*, 36 (1), 132-141.

Griffith, David A., Nukhet Harmancioglu, and Cornelia Droge (2009), "Governance Decisions for the Offshore Outsourcing of New Product Development in Technology Intensive Markets," *Journal of World Business*, 44 (3), 217-224.

Gulati, Ranjay (1995a), "Does Familiarity Breeds Trust? The Implications of Repeated Ties for Contractual Choice in Alliances," *Academy of Management Journal*, 38 (1), 85-112.

Gulati, Ranjay (1995b), "Social Structure and Alliance Formation Patterns: A Longitudinal Analysis," *Administrative Science Quarterly*, 40 (4), 619-652.

Gulati, Ranjay, Dovev Lavie, and Harbir Singh (2009), "The Nature of Partnering Experience and the Gains from Alliances," *Strategic Management Journal*, 30 (11), 1213-1233.

Gulati, Ranjay and Harbir Singh (1998), "The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances," *Administrative Science Quarterly*, 43 (4), 781-814.

Gwartney, James, Robert Lawson, Joshua Hall, Herbert Grubel, Jakob de Haan, Jan-Egbert Sturm, and Eelco Zandbert (2009), "Economic Freedom of the World: 2009," annual report, Economic Freedom Network.

H

Hagedoorn, John and Geert Duysters (2002), "Learning in Dynamic Inter-Firm Networks: The Efficacy of Multiple Contacts," *Organization Studies*, 23 (4), 525-548.

Hallén, Lars, Jan Johanson, and Nazeem Seyed-Mohamed (1991), "Interfirm Adaptation in Business Relationships," *Journal of Marketing*, 55 (2), 29-37.

Hamel, Gary (1991), "Competition for Competence and Inter-Partner Learning Within International Strategic Alliances," *Strategic Management Journal*, 12, 83-103.

Hartline, Michael D. and O.C. Ferrell (1996), "The Management of Customer-Contact Service Employees: An Empirical Investigation," *Journal of Marketing*, 60 (4), 52-70.

Hasija, Sameer, Edieal J. Pinker, and Robert A. Shumsky (2008), "Call Center Outsourcing Contracts Under Information Asymmetry," *Management Science*, 54 (4), 793-807.

Hätönen, Jussi and Taina Eriksson (2009), "30+ Years of Research and Practice of Outsourcing – Exploring the Past and Anticipating the Future," *Journal of International Management*, 15, 142-155.

Hauser, John, Gerard J. Tellis, and Abbie Griffin (2006), "Research on Innovation: A Review and Agenda for *Marketing Science*," *Marketing Science*, 25 (6), 687-717.

Hausman, Jerry, Bronwyn H. Hall, and Zvi Griliches (1984), "Econometric Models for Count Data with an Application to the Patents-R&D Relationship," *Econometrica*, 52 (4), 909-938.

Heide, Jan B. and George John (1990), "Alliances in Industrial Purchasing: The Determinants of Joint Action in Buyer-Supplier Relationships," *Journal of Marketing Research*, 27 (1), 24-36.

Heide, Jan B. and Allen M. Weiss (1995), "Vendor Consideration and Switching Behavior for Buyers in High-Technology Markets," *Journal of Marketing*, 59 (3), 30-43.

Hendricks, Kevin B. and Vinod R. Singhal (1997), "Delays in New Product Introductions and the Market Value of the Firm: The Consequences of Being Late to the Market," *Management Science*, 43 (4), 422-436.

Hennart, Jean-François and Jorma Larimo (1998), "The Impact of Culture on the Strategy of Multinational Enterprises: Does National Origin Affect Ownership Decisions?," *Journal of International Business Studies*, 29 (3), 515-538.

Hitt, Michael A., M. Tina Dacin, Edward Levitas, Jean-Luc Arregle, and Anca Borza (2000), "Partner Selection in Emerging and Developed Market Contexts: Resource-Based and Organizational Learning Perspectives," *Academy of Management Journal*, 43 (3), 449-467.

Hoetker, Glenn and Thomas Mellewigt (2009), "Choice and Performance of Governance Mechanisms: Matching Alliance Governance to Asset Type," *Strategic Management Journal*, 30 (10), 1025-1044.

Hoffman, Andrew J. (1999), "Institutional Evolution and Change: Environmentalism and the U.S. Chemical Industry," *Academy of Management Journal*, 42 (4), 351-371.

Hofstede, Geert (1997), *Culture and Organizations: Software of the Mind* (rev. ed.), New York: McGraw-Hill.

Hofstede, Geert (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations* (2nd rev. ed.), Thousand Oaks, CA: Sage.

Howe, Jeff (2006), "Crowdsourcing: A Definition," (accessed October 25, 2010), available at http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html.

I

IndustryWeek (2006), "Manufacturing Trend: Outsourcing New Product Development," (accessed October 25, 2010), available at http://www.industryweek.com.

Inkpen, Andrew and Adva Dinur (1998), "Knowledge Management Processes and International Joint Ventures," *Organization Science*, 9 (4), 454-468.

Inkpen, Andrew and Kannan Ramaswamy (2006), *Global Strategy: Creating and Sustaining Advantage across Borders*, Oxford: Oxford University Press.

J

Jain, Manoj (2006), "Call Center Outsourcing – Financial Implications," (accessed October 25, 2010), available at http://bpodiscuss.blogspot.com/2006_01_01_archive.html.

Jap, Sandy D. and Shankar Ganesan (2000), "Control Mechanisms and the Relationship Life Cycle: Implications for Safeguarding Specific Investments and Developing Commitment," *Journal of Marketing Research*, 37 (2), 227-245.

Jiang, Bin, James A. Belohlav, and Scott T. Young (2007), "Outsourcing Impact on Manufacturing Firms' Value: Evidence from Japan," *Journal of Operations Management*, 25 (4), 885-900.

Jiang, Bin, Gregory V. Frazier, and Edmund L. Prater (2006), "Outsourcing Effects on Firms' Operational Performance: An Empirical Study," *International Journal of Operations & Production Management*, 26 (12), 1280-1300.

Jiang, Bin, Tao Yao, and Baichun Feng (2008), "Valuate Outsourcing Contracts from Vendors'

Perspective: A Real Options Approach," *Decision Sciences*, 39 (3), 383-405.

Judge, George G., R. Carter Hill, William E. Griffiths, Helmut Lütkepohl, and Tsoung-Chao Lee, (1988), *Introduction to the Theory and Practice of Econometrics*, New York: John Wiley & Sons.

Juras, Paul E. (2008), "The Hidden Costs of Outsourcing," *The Journal of Corporate Accounting & Finance*, 19 (6), 7-15.

K

Kakabadse, Andrew and Nada Kakabadse (2002), "Trends in Outsourcing: Contrasting USA and Europe," *European Management Journal*, 20 (2), 189-198.

Kalaignanam, Kartik, Venkatesh Shankar, and Rajan Varadarajan (2007), "Asymmetric New Product Development Alliances: Win-Win or Win-Lose Partnerships?," *Management Science*, 53 (3), 357-374.

Kale, Prashant and Phanish Puranam (2004), "Choosing Equity Stakes in Technology-Sourcing Relationships: An Integrative Framework," *California Management Review*, 46 (3), 77-99.

Karmarkar, Uday (2004), "Will You Survive the Services Revolution?," *Harvard Business Review*, 82 (6), 100-107.

Katz, Jonathan (2006), "Learning to Let Go," *Industry Week*, 255 (7), 31-34.

Kleemann, Frank, G. Günter Voß, and Kerstin Rieder (2008), "Un(der)paid Innovators: The Commercial Utilization of Consumer Work through Crowdsourcing," *Science, Technology & Innovation Studies*, 4 (1), 5-26.

Klier, Thomas H. (1994), "The Impact of Lean Manufacturing on Sourcing Relationships," *Economic Perspectives*, 18, 8-18.

Kogut, Bruce and Harbir Singh (1988), "The Effect of National Culture on the Choice of Entry Mode," *Journal of International Business Studies*, 19 (3), 411-432.

Kor, Yasemin, Y. and Yoseph T. Mahoney (2005), "How Dynamics, Management, and Governance of Resource Deployments Influence Firm-Level Performance," *Strategic Management Journal*, 26 (5), 489-496.

Kotabe, Masaaki (1998), "Efficiency vs. Effectiveness Orientation of Global Sourcing Strategy: A Comparison of U.S. and Japanese Multinational Companies," *Academy of Management Executive*, 12 (4), 107-119.

Kotabe, Masaaki, Michael J. Mol, and Janet Y. Murray (2008), "Outsourcing, Performance, and

the Role of E-Commerce: A Dynamic Perspective," *Industrial Marketing Management*, 37 (1), 37-45.

Kotabe, Masaaki, Srini S. Srinivasan, and Preet S. Aulakh (2002), "Multinationality and Firm Performance: The Moderating Role of R&D and Marketing Capabilities," *Journal of International Business Studies*, 33 (1), 79-97.

KPMG (2007), "Businesses in the Dark over Value of their Own Outsourcing Deals: KPMG Global Survey," research report.

Krishnan, Rekha, Xavier Martin, and Niels G. Noorderhaven (2006), "When Does Trust Matter to Alliance Performance?," *Academy of Management Journal*, 49 (5), 894-917.

Kumar, Sanjiv and Anju Seth (1998), "The Design of Control and Coordination Mechanisms for Managing Joint Venture-Parent Relationships," *Strategic Management Journal*, 19 (6), 579-599.

L

Lane, Peter J., Balaji R. Koka, and Seemantini Pathak (2006), "The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct," *Academy of Management Review*, 31 (4), 833-863.

Lee, Dong-Jin (1998), "Developing International Strategic Alliances between Exporters and Importers: The Case of Australian Exporters," *International Journal of Research in Marketing*, 15 (4), 335-348.

Lehmann, Donald R. (2004), "Metrics for Making Marketing Matter," *Journal of Marketing*, 68 (4), 73-75.

Lei, David and Michael A. Hitt (1995), "Strategic Restructuring and Outsourcing: The Effect of Mergers and Acquisitions and LBOs on Building Firm Skills and Capabilities," *Journal of Management*, 21 (5), 835-859.

Leiblein, Michael J., Jeffrey R. Reuer, and Frédéric Dalsace (2002), "Do Make or Buy Decisions Matter? The Influence of Organizational Governance on Technological Performance," *Strategic Management Journal*, 23 (9), 817-833.

Levina, Natalia and Ning Su (2008), "Global Multisourcing Strategy: The Emergence of a Supplier Portfolio in Services Offshoring," *Decision Sciences*, 39 (3), 541-570.

Li, Mei and Thomas Y. Choi (2009), "Triads in Services Outsourcing: Bridge, Bridge Decay and Bridge Transfer," *Journal of Supply Chain Management*, 45 (3), 27-39.

Lieberman, Marvin B. (1991), "Determinants of Vertical Integration: An Empirical Test," *The Journal of Industrial Economics*, 39 (5), 451-466.

Lorenzoni, Gianni and Andrea Lipparini (1999), "The Leveraging of Interfirm Relationships as a Distinctive Organizational Capability," *Strategic Management Journal*, 20 (4), 317-338.

Lu, Jane W. and Louis Hébert (2005), "Equity Control and the Survival of International Joint Ventures: A Contingency Approach," *Journal of Business Research*, 58 (6), 736-745.

Luo, Xueming (2007), "Consumer Negative Voice and Firm-Idiosyncratic Stock Returns," *Journal of Marketing*, 71 (3), 75-88.

Luo, Yadong (2002), "Contract, Cooperation, and Performance in International Joint Ventures," *Strategic Management Journal*, 23 (10), 903-919.

Lyons, Bruce and Judith Mehta (1997), "Contracts, Opportunism and Trust: Self-Interest and Social Orientation," *Cambridge Journal of Economics*, 21 (2), 239-257.

M

Macneil, Ian R. (1978), "Contracts: Adjustment of Long-Term Economic Relations under Classical, Neoclassical, and Relational Contract Law," *Northwestern University Law Review*, 72 (6), 854-905.

Malerba, Franco (1992), "Learning by Firms and Incremental Technical Change," *The Economic Journal*, 102 (413), 845-859.

McIvor, Ronan (2009), "How the Transaction Cost and Resource-Based Theories of the Firm Inform Outsourcing Evaluation," *Journal of Operations Management*, 27 (1), 45-63.

McWilliams, Abagail and Donald Siegel (1997), "Event Studies in Management Research: Theoretical and Empirical Issues," *Academy of Management Journal*, 40 (3), 626-657.

Menon, Ajay, Bernard J. Jaworski, and Ajay K. Kohli (1997), "Product Quality: Impact of Interdepartmental Interactions," *Journal of the Academy of Marketing Science*, 25 (3), 187-200.

Mol, Michael J. (2005), "Does Being R&D Intensive Still Discourage Outsourcing? Evidence From Dutch Manufacturing," *Research Policy*, 34 (4), 571-582.

Momme, Jesper and Hans-Henrik Hvolby (2002), "An Outsourcing Framework: Action Research in the Heavy Industry Sector," *European Journal of Purchasing & Supply Management*, 8 (4), 185-196.

Moorman, Christine (1995), "Organizational Market Information Processes: Cultural Antecedents and New Product Outcomes," *Journal of Marketing Research*, 32 (3), 318-335.

Moorman, Christine and Anne S. Miner (1998), “The Convergence of Planning and Execution: Improvisation in New Product Development,” *Journal of Marketing*, 62 (3), 1-20.

Moorman, Christine, Gerald Zaltman, and Rohit Deshpandé (1992), “Relationships Between Providers and Users of Market Research: The Dynamics of Trust Within and Between Organizations,” *Journal of Marketing Research*, 29 (3), 314-328.

Murray, Janet Y. and Masaaki Kotabe (1999), “Sourcing Strategies of U.S. Service Companies: A Modified Transaction-Cost Analysis,” *Strategic Management Journal*, 20 (9), 791-809.

N

Nagle, Anthony and Alistair Maughan (2007/08), “Single and Multi-Sourcing Models,” research report, Morrison & Foerster.

Newton-Taylor, Clemmie (2010), “Trends in the Global Outsourcing Market,” research report, Gambit Corporate Finance LLP.

Ngwenyama, Ojelanki K. and Noel Bryson (1999), “Making the Information Systems Outsourcing Decision: A Transaction Cost Approach to Analyzing Outsourcing Decision Problems,” *European Journal of Operational Research*, 115 (2), 351-367.

O

Ouchi, William G. and Michele Kremen Bolton (1988), “The Logic of Joint Research and Development,” *California Management Review*, 30 (3), 9-33.

P

Pan, Yigang (1996), “Influences on Foreign Equity Ownership Level in Joint Ventures in China,” *Journal of International Business Studies*, 27 (1), 1-26.

Park, Namgyoo K. (2004), “A Guide to Using Event Study Methods in Multi-Country Settings,” *Strategic Management Journal*, 25 (7), 655-668.

Park, Seung H. and Gerardo R. Ungson (2001), “Interfirm Rivalry and Managerial Complexity: A Conceptual Framework of Alliance Failure,” *Organization Science*, 12 (1), 37-53.

Parkhe, Arvind (1993), “Strategic Alliance Structuring: A Game Theoretic and Transaction Cost Examination of Interfirm Cooperation,” *Academy of Management Journal*, 36 (4), 794-829.

Patell, James M. (1976), “Corporate Forecasts of Earnings per Share and Stock Price Behavior: Empirical Tests,” *Journal of Accounting Research*, 14 (2), 246-276.

Pisano, Gary P. (1989), “Using Equity Participation to Support Exchange: Evidence from the Biotechnology Industry,” *Journal of Law, Economics, and Organization*, 5 (1), 109-126.

Pisano, Gary P. and Willy C. Shih (2009), “Restoring American Competitiveness,” *Harvard Business Review*, 87 (7/8), 114-125.

Poppo, Laura and Todd Zenger (2002), “Do Formal Contracts and Relational Governance Function as Substitutes or Complements?,” *Strategic Management Journal*, 23 (8), 707-725.

Powell, Walter W. (1990), “Neither Market nor Hierarchy: Network Forms of Organization,” *Research in Organizational Behavior*, 12, 295-336.

Prahalad, C.K. and Gary Hamel (1990), “The Core Competence of the Corporation,” *Harvard Business Review*, 68 (3), 79-91.

PricewaterhouseCoopers (2006), “Insights into the Food, Beverage, and Consumer Products Industry: GMA Overview of Industry Economic Impact, Financial Performance, and Trends,” financial performance report, Grocery Manufacturers Association/Food Products Association (GMA/FPA).

PricewaterhouseCoopers (2010), “Forging Ahead in the New Economy,” financial performance report, Grocery Manufacturers Association (GMA).

Puranam, Phanish and Bart S. Vanneste (2009), “Trust and Governance: Untangling a Tangled Web,” *Academy of Management Review*, 34 (1), 11-31.

Q

Quinn, James Brian (2000), “Outsourcing Innovation: The New Engine of Growth,” *Sloan Management Review*, 41 (4), 13-28.

Quinn, James Brian and Frederick G. Hilmer (1994), “Strategic Outsourcing,” *Sloan Management Review*, 35 (4), 43-55.

R

Ramanathan, Suresh and Sanjay K. Dhar (2010), “The Effect of Sales Promotions on the Size and Composition of the Shopping Basket: Regulatory Compatibility from Framing and Temporal Restrictions,” *Journal of Marketing Research*, 47 (3), 542-552.

Ramaswamy, Ramana and Robert Rowthorn (2000), “Does Manufacturing Matter?,” *Harvard Business Review*, 78 (6), 32-33.

Ren, Z. Justin and Yong-Pin Zhou (2008), “Call Center Outsourcing: Coordinating Staffing Level and Service Quality,” *Management Science*, 54 (2), 369-383.

Richardson, James (1993), “Parallel Sourcing and Supplier Performance in the Japanese Automobile Industry,” *Strategic Management Journal*, 14 (5), 339-350.

Richardson, James and James Roumasset (1995), “Sole Sourcing, Competitive Sourcing, Parallel Sourcing: Mechanisms for Supplier Performance,” *Managerial and Decision Economics*, 16 (1), 71-84.

Rindfleisch, Aric and Jan B. Heide (1997), “Transaction Cost Analysis: Past, Present, and Future Applications,” *Journal of Marketing*, 61 (4), 30-54.

Robinson, David T. and Toby E. Stuart (2007), “Financial Contracting in Biotech Strategic Alliances,” *Journal of Law and Economics*, 50 (3), 559-595.

Rothaermel, Frank T., Michael A. Hitt, and Lloyd A. Jobe (2006), “Balancing Vertical Integration and Strategic Outsourcing: Effects on Product Portfolio, Product Success, and Firm Performance,” *Strategic Management Journal*, 27 (11), 1033-1056.

Rothery, Brian and Ian Robertson (1995), *The Truth About Outsourcing*, Aldershot: Gower.

Rowley, Tim, Dean Behrens, and David Krackhardt (2000), “Redundant Governance Structures: An Analysis of Structural and Relational Embeddedness in the Steel and Semiconductor Industries,” *Strategic Management Journal*, 21 (3), 369-386.

Roy, Jean-Paul and Christine Oliver (2009), “International Joint Venture Partner Selection: The Role of the Host-Country Legal Environment,” *Journal of International Business Studies*, 40 (5), 779-801.

Rust, Roland T., Anthony J. Zahorik, and Timothy L. Keiningham (1995), “Return on Quality (ROQ): Making Service Quality Financially Accountable,” *Journal of Marketing*, 59 (2), 58-70.

S

SafeHarbor (2001), “SafeHarbor Selected to Provide Customer Support for Unified Communication/Unified Information Leader Appiant Technologies,” (accessed October 25, 2010), available at http://safeharbor.com.

Schoonhoven, Claudia B. (1981), “Problems with Contingency Theory: Testing Assumptions Hidden within the Language of Contingency ‘Theory’,” *Administrative Science Quarterly*, 26 (3), 349-377.

Scott, W. Richard (2001), *Institutions and Organizations* (2nd ed.), Thousand Oaks, CA: Sage.

Seshadri, Sudhindra, Kalyan Chatterjee, and Gary L. Lilien (1991), “Multiple Source Procurement Competitions,” *Marketing Science*, 10 (3), 246-263.

Sethi, Rajesh, Daniel C. Smith, and C. Whan Park (2001), “Cross-Functional Product Development Teams, Creativity, and the Innovativeness of New Consumer Products,” *Journal*

of Marketing Research, 38 (1), 73-85.

Shaver, J. Myles (1998), "Accounting for Endogeneity When Assessing Strategy Performance: Does Entry Mode Choice Affect FDI Survival?," *Management Science*, 44 (4), 571-585.

Simmel, Georg (1950 [1908]), "Quantitative Aspects of the Group," in *The Sociology of Georg Simmel*, Kurt H. Wolff, ed. New York: Free Press, 87-177.

Simonin, Bernard L. (1999), "Ambiguity and the Process of Knowledge Transfer in Strategic Alliances," *Strategic Management Journal*, 20 (7), 595-623.

Slater, Stanley F. and John C. Narver (1994), "Does Competitive Environment Moderate the Market Orientation – Performance Relationship?," *Journal of Marketing*, 58 (1), 46-55.

Song, X. Michael, Mitzi M. Montoya-Weiss, and Jeffrey B. Schmidt (1997), "Antecedents and Consequences of Cross-Functional Cooperation: A Comparison of R&D, Manufacturing, and Marketing Perspectives," *The Journal of Product Innovation Management*, 14 (1), 35-47.

Sorescu, Alina B., Rajesh K. Chandy, and Jaideep C. Prabhu (2003), "Sources and Financial Consequences of Radical Innovation: Insights from Pharmaceuticals," *Journal of Marketing*, 67 (4), 82-102.

Sorescu, Alina B. and Jelena Spanjol (2008), "Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods," *Journal of Marketing*, 72 (2), 114-132.

Srinivasan, Raji and Sundar Bharadwaj (2004), "Event Studies in Marketing Strategy Research," in *Assessing Marketing Strategy Performance*, Christine Moorman and Donald R. Lehmann, eds., Cambridge: Marketing Science Institute, 9-28.

Srinivasan, Shuba and Dominique M. Hanssens (2009), "Marketing and Firm Value: Metrics, Methods, Findings, and Future Directions," *Journal of Marketing Research*, 46 (3), 293-312.

Strassmann, Paul A. (2004), "The Economics of Outsourcing," *Information Economics Journal*, 13-17.

Sturgeon, Timothy J. (1997), "Does Manufacturing Still Matter? The Organizational Delinking of Production from Innovation," Working paper, Center for Technology, Policy, and Industrial Development at MIT.

Sutcliffe, Kathleen M. and Akbar Zaheer (1998), "Uncertainty in the Transaction Environment: An Empirical Test," *Strategic Management Journal*, 19 (1), 1-23.

Swaminathan, Vanitha and Christine Moorman (2009), "Marketing Alliances, Firm Networks, and Firm Value Creation," *Journal of Marketing*, 73 (5), 52-69.

T

Tadelis, Steven (2007), "The Innovative Organization: Creating Value Through Outsourcing," *California Management Review*, 50 (1), 261-277.

Taplin, Ruth (2008), "Outsourcing, Innovation, and Risk," (accessed October 25, 2010), available at http://science.thomsonreuters.com/news/2008-03/8444161/.

The Economist (2004), "Survey: Outsourcing Men and Machines," (accessed October 25, 2010), available at http://www.economist.com.

The Outsourcing Institute (1998), "Executive Survey: The Outsourcing Institute's Annual Survey of Outsourcing End Users," (accessed October 25, 2010), available at http://www.outsourcing.com.

Tiwana, Amrit (2008), "Does Technological Modularity Substitute for Control? A Study of Alliance Performance in Software Outsourcing," *Strategic Management Journal*, 29 (7), 769-780.

Tullous, Raydel and Richard L. Utecht (1992), "Multiple or Single Sourcing?," *The Journal of Business & Industrial Marketing*, 7 (3), 5-18.

U

Ulrich, Karl T. and David J. Ellison (2005), "Beyond Make-Buy: Internalization and Integration of Design and Production," *Production and Operations Management*, 14 (3), 315-330.

Uzzi, Brian (1997), "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness," *Administrative Science Quarterly*, 42 (1), 35-67.

W

Walker, Gordon and David Weber (1984), "A Transaction Cost Approach to Make-or-Buy Decisions," *Administrative Science Quarterly*, 29 (3), 373-391.

Wathne, Kenneth H. and Jan B. Heide (2000), "Opportunism in Interfirm Relationships: Forms, Outcomes, and Solutions," *Journal of Marketing*, 64 (4), 36-51.

Wathne, Kenneth H. and Jan B. Heide (2004), "Relationship Governance in a Supply Chain Network," *Journal of Marketing*, 68 (1), 73-89.

Weick, Karl E. (1979), *The Social Psychology of Organizing* (2nd ed.), Reading, MA: Addison-Wesley.

Weigelt, Carmen (2009), "The Impact of Outsourcing New Technologies on Integrative Capabilities and Performance," *Strategic Management Journal*, 30 (6), 595-616.

Weigelt, Carmen and Mb Sarkar (2009), "Learning From Supply-Side Agents: The Impact of Technology Solution Providers' Experiential Diversity on Clients' Innovation Adoption," *Academy of Management Journal*, 52 (1), 37-60.

Whitaker, Jonathan, Mayuram S. Krishnan, and Claes Fornell (2008), "Does Offshoring Impact Customer Satisfaction?," Working paper.

Whitten, Dwayne, Subrata Chakrabarty, and Robin Wakefield (2010), "The Strategic Choice to Continue Outsourcing, Switch Vendors, or Backsource: Do Switching Costs Matter," *Information & Management*, 47 (3), 167-175.

Wierenga, Berend and Gerrit H. van Bruggen (1997), "The Integration of Marketing Problem-Solving Modes and Marketing Management Support Systems," Journal of Marketing, 61 (3), 21-37.

Williamson, Oliver E. (1985), *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*, New York: The Free Press.

Williamson, Oliver E. (1991), "Comparative Economic Organization: The Analysis of Discrete Structural Alternatives," *Administrative Science Quarterly*, 36 (2), 269-296.

Williamson, Oliver E. (1999), "Public and Private Bureaucracies: A Transaction Cost Economics Perspective," *Journal of Law, Economics, and Organization*, 15 (1), 306-342.

Williamson, Oliver E. (2008), "Outsourcing: Transaction Cost Economics and Supply Chain Management," *Journal of Supply Chain Management*, 44 (2), 5-16.

Wind, Jerry and Vijay Mahajan (1997), "Issues and Opportunities in New Product Development: An Introduction to the Special Issue," *Journal of Marketing Research*, 34 (1), 1-12.

Winer, Russel S. (2007), *Marketing Management* (3rd ed.), Upper Saddle River, NJ: Pearson Prentice Hall.

Wong, Siew Fan, Abdul Rahman, and Petaling Jaya (2008), "Drivers of IT Backsourcing Decision," *Communications of the IBIMA*, 2 (15), 102-108.

Wuyts, Stefan (2007), "Extra-Role Behavior in Buyer-Supplier Relationships," *International Journal of Research in Marketing*, 24 (4), 301-311.

Wuyts, Stefan and Inge Geyskens (2005), "The Formation of Buyer-Supplier Relationships: Detailed Contract Drafting and Close Partner Selection," *Journal of Marketing*, 69 (4), 103-117.

Wuyts, Stefan, Peter C. Verhoef, and Remco Prins (2009), "Partner Selection in B2B Information Service Markets," *International Journal of Research in Marketing*, 26 (1), 41-51.

Y

Youngdahl, William and Kannan Ramaswamy (2008), "Offshoring Knowledge and Service Work: A Conceptual Model and Research Agenda," *Journal of Operations Management*, 26 (2), 212-221.

Z

Zajac, Edward J., Brian R. Golden, and Stephen M. Shortell (1991), "New Organizational Forms for Enhancing Innovation: The Case of Internal Corporate Joint Ventures," *Management Science*, 37 (2), 170-184.

Zeithaml, Valarie A. and Mary Jo Bitner (2003), *Services Marketing: Integrating Customer Focus Across the Firm* (3rd ed.), New York: McGraw-Hill.

Zerbe Jr., Richard O. and Howard McCurdy (2000), "The End of Market Failure," *Regulation*, 23 (2), 10-14.

Zhou, Kevin Zheng (2006), "Innovation, Imitation, and New Product Performance: The Case of China," *Industrial Marketing Management*, 35 (3), 394-402.

Zhou, Kevin Zheng, Chi Kin (Benneth) Yim, and David K. Tse (2005), "The Effects of Strategic Orientations on Technology- and Market-Based Breakthrough Innovations," *Journal of Marketing*, 69 (2), 42-60.

Zollo, Maurizio, Jeffrey J. Reuer, and Harbir Singh (2002), "Interorganizational Routines and Performance in Strategic Alliances," *Organization Science*, 13 (6), 701-713.